

Manufacturers Record

Exponent of America



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JUNE 14, 1923

Municipally Owned Harbor and Terminal Facilities.

To what extent are municipalities and states justified in developing wharves and warehouses, in building elevators and railroads, and engaging in kindred activities? This question is a very broad one which has been much discussed of recent years. In some states community work of this kind has been vigorously criticized by those who regard it as socialistic in its trend. On the other hand many of the most conservative states and cities in the country have carried on vast improvements under municipal ownership without having been criticized therefor.

New Orleans, for instance, has \$100,000,000 invested in municipal wharves, warehouses, elevators, an industrial canal and other publicly owned enterprises. The story of what New Orleans has done in this respect, as told in this issue, will command nationwide attention. Baltimore, after an initial expenditure following the great fire of 1904 when it invested \$6,000,000 in municipally owned wharves, voted a few years ago in favor of a bond issue of \$50,000,000 for harbor improvements and wharf expansion under municipal ownership.

Norfolk has followed along somewhat similar lines in building its great grain elevator and other work. North Carolina is projecting the development of port terminals, and perhaps the operation of a state owned steamship line. It has recently voted a bond issue of \$10,000,000 for building a railroad in a richly endowed mountain section which has never been penetrated by privately owned lines. Alabama has projected the expenditure of ten millions of dollars for the development of Mobile as a state port, and other states in the South are considering similar projects.

Many of the Eastern states have been doing the same work and doing it on a very great scale, involving the expenditure of a great many millions of dollars for municipally owned wharves, warehouses, elevators and kindred enterprises.

To what extent shall work of this kind be carried on by towns and cities and states? Is the trend socialistic or is it a movement to accomplish things which individual capital has failed to do? Some of the far Western states have been vigorously criticized for building state owned elevators and establishing state banks. But here are some of the most conservative Eastern and Southern cities and states carrying on enormous expenditures for things which it was formerly supposed should be owned or developed exclusively by railroads or other individual interests.

What New Orleans has done in spending \$100,000,000 is of world-wide interest. It may set the pace in every part of the country for deep thinking on all of these lines.

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Manufacturers Record

Exponent of America

JUNE 14, 1923

Volume LXXXIII

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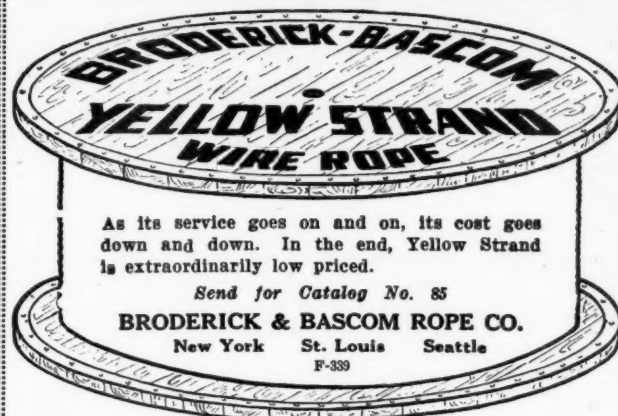
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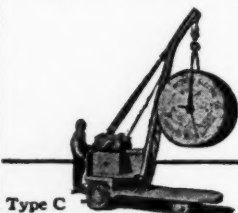
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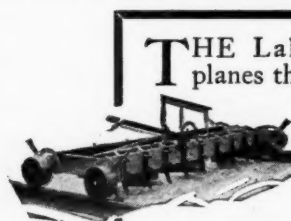
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PASS IT ON.

Robert and Company,
Incorporated,
Architects and Engineers,
Atlanta, Ga., June 2.

Editor Manufacturers Record:

Have just noticed with a great deal of interest the article on the front of the May 31 issue of your RECORD incorporating a letter from Mr. Phinehas V. Stephens regards your Blue Book of Southern Progress.

I am heartily in sympathy and approval of this suggestion of Mr. Stephens, as right at this time the industrial world is turning its eyes to our great Southeast and Southwest which is just beginning to come into its own. With you people as its constant sponsor, I am sure that it will carry on.

L. W. ROBERT, JR., President.

Mr. Robert and Mr. Stephens and every other Southern man who reads the Blue Book of Southern Progress can largely help to "carry on" by circulating it among Southern people as well as among Eastern and Western friends as far as may be possible, in order to broaden the information of this country about the South. We often think that Southern people need more than the people of any section of this country to know their own regions, its history, resources, its development, its potentialities.

To a very large extent the people of the South, young and old, men and women alike, have only a vague and somewhat smattering idea as to what the South is, what it has been, and what it will be. It is for this reason that we invite the co-operation of every man who wants to see the South advance in every line of material and educational activity. Read the Blue Book, study it, pass it on to friends, or subscribe to it for them.

HOW TO DEVELOP SOUTHERN LABOR FOR THE GOOD OF THE LABORERS AND THE SOUTH.

A SUGGESTION of the utmost importance to the South is made in a letter to the MANUFACTURERS RECORD by Mr. W. B. McEwen, of the McEwen Lumber Company, Asheville, N. C. In referring to a statement in this paper some months ago that the South did not want an influx of foreign cotton mill operatives nor labor agitators from other sections, Mr. McEwen writes:

"As an old subscriber of yours, I know that you are first, last and always for the development and the best good of our country as a whole, more especially of the South, and have indeed done much to promote the South as a land of opportunity, wonderful climate, water power, etc. I am glad and grateful that it is my lot to do my bit in the South—proud that our people are practically all native-born Anglo-Saxons and it behooves us as employers to keep it so.

"My object in writing is not to have this or anything of mine appear on your pages, but simply to place before you what I hope you will find to be a practical, constructive suggestion, and to urge that you use your influence to promote and bring practical results from it. My thought is that all employers of labor in the South—where up to this time we have been practically free from labor troubles—which cannot be said of any other part of the states—make it their chief business to see to it that their labor be made so contented and happy in their service that labor agitators and organizers will find no grievance, fancied or real, to enlarge or build upon. I would even suggest that possibly a meeting could be arranged of the larger employers where experiences might be exchanged, suggestions given and received, as to how best bring about the desired result, namely; that of building contented, happy and loyal labor forces. I believe it is a practical suggestion and can be handled in a practical way and many of the employers are already well embarked on this program. We are all admittedly selfish, but not all are wisely selfish, for contented labor, made so because of pleasant surroundings, fair play and good wages, will do more and better work, than for us to be pennywise in the matter of wages or anything else that will make men loyal and happy. Wise selfishness, is the best good, for the greatest number for the longest length of time, which of course, includes ourselves, for thus we gain the most in every way. Employers of labor today know that it pays to keep their forces contented and thereby forestall to as large an extent as possible, labor troubles. My suggestion is that you, with the influence of your publication, could get behind this thought and bring it to the attention especially, of our Southern employers of labor, that they get together and make some real effort to build up our men in health, wealth and happiness, building them just as we build our business. Let employer and employee prosper together and who shall then be able to measure the prosperity of the South.

"It is not so much that we 'oppose,' as you say, the possible incoming of foreign labor, labor organizers and agitators, but it is important that we all, in a real constructive sense, build up and with our own men, for then there will be no room or need for foreign labor, organizers or agitators. We have, as you say, a fine, patriotic, home-born citizenship, who love their country deeply and are, perhaps, the most intensely loyal folk in the world. Can we as employers but obtain and keep their loyalty, the so-called labor agitators would be out

of a job, at least in the South. Why then 'oppose' when we can build up our own men and keep the undesirables out?"

The suggestion of Mr. McEwen should meet with the heartiest response of the people of the whole South. We have in this section unusual labor conditions. As a whole, we have the best class of white labor in the world. There is nothing quite equal to it, taking character and inherent qualities and patriotism, to be found anywhere else in this or in any other country. We have in the mountain regions of the South a great beehive, pouring forth a never-ending stream of people capable of being developed into the very highest skill in every line of activity. No better material for the development of labor, which would be a blessing to any section, can be found than in this white labor of the South. It is American; it is Anglo-Saxon; it is unmixed with foreign blood.

We then have a great labor asset in the negro population. Much of this labor can be developed into exceptionally fine working men, for the farm and the factory and for other purposes. If the people of the whole South would unite, as Mr. McEwen has suggested, in developing every possible advantage for this labor, white and black, creating on the part of labor a pride in the South and a pride in the work done; providing the best facilities for home advantages, for schools and churches, and for employment, the South would soon stand preeminently above all other sections of the world in the character and quality of its labor.

Let Mr. McEwen's suggestion be taken up seriously everywhere!

A FALSE DOCTRINE.

THE United Business Service of Boston, in which Mr. Roger Babson holds a controlling interest, though perhaps he may not direct its actual management or expression of views, in a circular letter of May 26 to its customers, after referring to increasing importations threatening to change the balance of trade against us, says:

"This means that every man in business should exert the full force of his influence to keep prices of labor and raw materials as low as possible. Only by such concentrated efforts can we expect to hold present gains."

To state it mildly, the MANUFACTURERS RECORD believes that such doctrine is diabolical. Any effort on the part of business interests to exert the full force of their power to keep prices of labor as low as possible is inhuman, un-American, unpatriotic, and is contrary to the teachings of the Golden Rule, which more and more men are beginning to realize must be a fundamental policy if men are to do their duty by humanity. We trust that Mr. Babson is in no way responsible for such a statement. Certainly, if he is not, he should repudiate it openly and vigorously, for Mr. Babson professes to believe in the Golden Rule.

The theory that the cost of labor must be kept at the lowest point possible is a theory which intelligent men, getting away from purely personal, selfish grounds, are more and more recognizing as false from every point of view. Such a policy means the degradation of labor. It means that labor would be ground down, if this teaching were followed, to the last degree. But we rejoice that that is not the policy of the intelligent employers of America; it is not the policy of any man who loves his fellow man; it is not the policy of any man who recognizes his responsibility for the betterment of humanity. Any man who takes that position immediately cuts himself off from being in any one of these classes, and places himself alongside of the old feudal system which existed only through the suppression and the practical enslavement of the common people.

Thank God that spirit is passing away! But that is the spirit which in former times was responsible for creating some of the labor unrest of the country and which drove

some men, many of them against their own convictions, into labor unions. Better would it be for America to absolutely build a Chinese wall around itself and live within itself than to seek to develop its foreign business through the crushing of labor to the point suggested in this United Business Service circular, which says that "every man in business should exert the full force of his influence to keep the prices of labor as low as possible, and also the prices of raw materials."

Raw materials would mean cotton and wool and a thousand and one other things which enter into manufactured products. It would mean wheat and corn and food stuffs, because they are all the raw materials of human existence. And if the price of cotton and wool and other agricultural products are forced down with labor we would again have chaos, not only chaos in business, but chaos in Government.

President Harrison wisely said that "a cheap coat makes a cheap man," at a time when he was pleading for adequate protection to save the labor of this country from competition with the cheaply paid labor of Europe and the Orient. President Harrison's advice was as much wiser than that of the United Business Service as Heaven is higher than the hell.

IN THE PLAN OF THE UNITED RAILWAYS OF BALTIMORE TO AID EMPLOYEES TO BUY COAL NOW IS A SUGGESTION FOR ALL OTHER EMPLOYERS.

A PLAN has been put into operation by the United Railways & Electric Co. of Baltimore, under the direction of President C. D. Emmons, whereby the company this summer will aid its more than 5000 employees to secure coal for home use during the winter.

In cooperation with the coal dealers of Baltimore, the United Railways has arranged to let each employee so desiring order the needed supply of coal as soon as possible. The company will pay for the coal on delivery at the home of the employee who is to be allowed twenty weeks in which to reimburse the company for the cost of the coal. The employee may place his order for the winter's supply with local coal companies, preference being given to dealers having a plentiful supply of coal at present.

Mr. Emmons states that the coal dealers have responded to the innovation and promise cooperation with the worker. "The plan," he said, "will be far reaching in its effect, it will relieve the railroads, the dealer and the home owner by helping to bring winter work into the summer months. The same idea was inaugurated recently by a Connecticut industrial organization and proved successful."

This is a laudable undertaking by the United Railways and one well worthy of emulation by other large employers of labor. It is in direct harmony with the view expressed by the MANUFACTURERS RECORD some weeks ago to the effect that all who could do so should buy coal now in order to lessen the burden on the coal producer, the distributor, and the transportation agencies of the country next fall and winter.

From all indications, hard coal will not be any cheaper this year and it appears that there will not be enough coal to meet demand again in the coming winter. Soft coal may also be in short supply for lack of transportation. It is the far seeing business man and the individual home owner who will take advantage of the situation and secure his winter's coal requirements at the earliest moment possible.

The plan of laying in next winter's coal both for domestic and steam purposes should be aided by all large employers and by the banks through cooperation with local coal dealers. The banks could render the country an important service by uniting with coal dealers and enabling them to sell to all responsible customers on long time credits, provided the purchases be made early in the season.

HAS EUROPE CAPTURED THE AVAILABLE COTTON SUPPLY?

MR. J. S. WANNAMAKER, President of the American Cotton Association, wires the MANUFACTURERS RECORD as follows:

"Through unquestioned sources it is learned that Central Europe has purchased large proportion remaining limited amount American stocks of cotton, including stocks cotton on New York Exchange for export commencing August 1. As result of this, exports to Central Europe will exceed any record of recent years. This will hit American and English cotton manufacturers with double force, bringing them face to face with fact that it will be necessary to curtail operations account exhaustion of stocks before the new cotton can be manufactured, it being necessary to use at least fifty per cent of old cotton in the manufacture of new cotton, rendering matter of operation even after the new cotton reaches the market of serious concern.

"Conceded that only possibility of stopping labor migration and preventing catastrophe to every line of the cotton industry account of inadequate production from growing crop due to abandonment of acreage from acute labor shortage, is to perpendicularly raise wages of laborers. Hence those who have been postponing filling their pressing demands in any effort to secure cheap cotton, and those who have been most flagrantly manipulating the market, have by their efforts brought every line of cotton producing industry face to face with the most serious problem that has confronted it in the last half century; in fact they have threatened the very future of the cotton industry.

"Census being taken of various cotton growing states shows alarming migration of laborers and farmers to manufacturing centers. What else could be expected under existing conditions? Labor in cotton states at from five to ten cents per hour urged to accept employment in manufacturing centers at from sixty to one hundred cents per hour with vastly improved living conditions. Farmers unable to obtain cost of production of cotton produced even on starvation wages, impossible to compete with other lines of industry. Permanent prosperity can only exist with a permanent, prosperous agriculture. Cheap cotton based upon starvation wages has gone, never to return.

"Never has there been a time since cotton was first planted in Alabama it was of more vital importance to not only every line of the cotton industry, but to the entire cotton consuming world, that cotton bring a price of cost plus a profit than to-day. Never has there been a time when based upon the law of supply and demand such a price would be more justifiable. Yet, regardless of all of this, cotton continues to sell below the cost of production, even basing the cost upon starvation wages.

"Every reputable authority in the cotton world that has given consideration to the matter confirms the fact we are face to face with the most acute cotton famine that has existed since the memorable cotton famine of '65—even though the German reparation question is not adjusted—until another crop following the present growing crop can reach the market, and the fact confronts us that we are nearer an adjustment of the reparation question to-day than at any time since the cessation of hostilities. It is for this reason that Central Europe is accumulating raw products.

"There has never been a time since the first farmer, Abel, was killed by his brother that it was more important for the world to realize in dealing with the farmer that 'I am my brother's keeper.' From whence will raw products be secured to fill the increased demand which is inevitable, especially in cotton? The consumption of cotton for the coming cotton year, commencing August 1, I predict will exceed

any consumption in many years. From whence will these supplies come? They cannot be secured from the so-called supplies now on hand, which are fast reaching the vanishing point, even based upon paper statistics. They cannot spin paper contracts. They must have actual cotton.

"With the migration of labor, boll weevil infestation, discouragement of the farmers, and adverse seasons we are plainly facing another short cotton crop. Although the Agricultural Department, through its committee on 'intentions and agricultural outlook' issued a statement showing the indicated carryover of cotton supplies at the end of the present cotton year 2,300,000 in excess of the correct amount, permitting this to stand uncorrected, regardless of the fact that the error was pointed out to them by one of the highest officials connected with the Department, and regardless of the fact that the error was pointed out to them and they were urged to make correction; still it is conceded by every reputable authority, that even on the smaller indicated carryover, there must be a further deduction representing approximately 250,000 bales of the so-called city crop—cotton packed from samples drawn from bales already counted—and must be deduction for cotton reported in consuming establishments reporting cotton bought but not delivered, thus resulting in a double count, the same cotton being reported at concentration points.

"In addition to this it is conceded that there is a large amount of cotton sold to consuming establishments long past due and will never be delivered, it being estimated this amount was over 500,000 bales and that the manufacturers would be forced to enter the market and rebuy this cotton. In addition to this the manufacturers have not contracted for cotton and will be forced to enter the market and purchase cotton until the new crop can be spun. And, regardless of all of this, cotton is selling below the cost of production based upon starvation wages at which it has been produced. In the face of all of this, cotton can be bought on the New York Exchange from one to one and one-half cents less than anywhere else in the world, and it is due to this fact that Central Europe has taken advantage of the situation and has purchased a large amount of existing stocks now in New York for export in August, and it is due to this fact that the manufacturers, who have become wise to the situation, are buying cotton in New York on the Exchange, where it can be bought cheaper than anywhere else in the world and will demand delivery; and it is due to the above facts that it is realized that the old system of cotton production has broken down and cast upon the scrap heap, and never again will it be possible to buy cheap cotton based upon starvation wages. Never again will it be possible to buy another American cotton crop below the cost of production even based upon higher wages and the enormously increased expense necessary for the production of a cotton crop.

"Never was there a time when it was more important for every line of the cotton industry to co-operate for the protection of one of the greatest industries in the world; never was there a time when it was more important for the national government to take necessary steps for the protection and preservation of the American cotton crop and agriculture of the nation. This cannot be done by holding secret conferences and making secret alliances between the capitalistic group and union labor. It is not the function of the Government to protect the strong; to accord to the strong special consideration which will not be granted to the weak. If any preference was been shown it would seem that it should be in behalf of the foundation of our commerce and civilization, our stricken industry, Agriculture.

"I have addressed the following letter to Secretary Hoover concerning this matter and now await his reply:

"Our attention has been called through the public press to a conference recently held by you with Mr. Gompers, head

of the American Federation of Labor, and Mr. Julius Barnes, President U. S. Chamber of Commerce. I note with much interest that the purpose of the conference is to establish permanent national prosperity by co-operative effort through the basic industries of the nation.

"In this connection, it appears that the representatives of labor have been assured of a continuation of good wages and living conditions as a part of the program for making permanent the prosperity of the nation as a whole. We have no criticism to make against the general welfare and promotion of labor and other industries in working out any scheme for permanent prosperity which is to be so greatly desired by all sections of the country.

"We do feel, however, that the only fundamental and underlying basic industry of this nation, and upon which all other industries, including labor, must depend for prosperity and progress, is agriculture. Any conference or plan for the determination of making permanent prosperity in this country which does not give to agriculture a leading status in the program for rehabilitation, will be to forge a chain that will be weakest at its most important link, and a link in any chain not strongly forged means a weakening of the entire fabric.

"Permanent prosperity among the various lines of industry and arts of trade and finance cannot be realized unless agriculture, the foundation of the structure upon which American commerce has been built, is maintained and fostered by dependent industries, population and the Government.

"Under existing conditions and the revival of commerce and industry, the basic industry of the nation seems to be ignored. Agriculture at this time cannot compete with other industries in the wages paid for labor. There is too wide a disparity between the market values of farm products and the prices to be paid for farm supplies and labor required on the farm. As a practical illustration of the present spread between the value of staple farm products and the item of industrial labor wages, I beg to call your attention to the following comparative values:

"It takes 63½ dozen, or 762 eggs, to pay a plasterer for one day's work of eight hours.

"It takes 17½ bushels of corn, or a year's receipts from half an acre, to pay a bricklayer one day.

"It takes twenty-three chickens, weighing three pounds each, to pay a painter for one day's work in New York.

"It takes forty-two pounds of butter, or the output from fourteen cows, fed and milked for twenty-four hours, to pay a plumber \$14 a day.

"It takes a hog weighing 175 pounds, representing eight months' feeding and care, to pay a carpenter for one day's work.

"What do these figures indicate? Are they not discouraging to the farmer? Will they deter him from plowing and planting? What is the lesson to be learned from the present industrial situation?

"There can be no permanent prosperity in town and city unless there be an equal degree of prosperity in the country districts and on the farm. This is a fundamental truism which cannot be argued. The present daily wage on the cotton farms of the South, due to unprofitable market values of farm crops, is from five to ten cents per hour, while the same class of labor is offered from fifty cents to one dollar per hour in industrial centers. Due to this wide spread in the price of farm labor as compared with that offered in industrial centers, a tidal wave of migration is taking place from the farms of the whole nation to other more attractive lines of industry.

"In view of these facts, arrangements are being perfected for holding a nationwide conference of representatives of American agriculture and its friendly allied business interests at Washington during the month of July to prepare and formulate a petition to the President and his administration, for the purpose of securing relief from existing intolerable conditions. Co-operation, regardless of section and regardless of politics, in this conference is pledged, it being the consensus of judgment of the leaders of the representatives of the leading staple agricultural crops, as well as outstanding representatives of friendly allied business from the various sections of the nation, that unless relief can be obtained from existing appalling conditions, that this nationwide conference should be held.

"The continued interference of Federal Bureaus in the agricultural industry of an adverse nature during the past few months, has resulted in the most harmful effect to the welfare of the farmers. These harmful interferences have tended to drive down the market values of staple farm products while at the same time advancing the cost of labor

and increasing the prices of industrial commodities. To advance the scale of industrial labor while depressing the market values of farm products will certainly have the ultimate result of placing American farmers upon the lowest scale of American wage earners.

"You must realize that these conditions cannot continue. Unless relief comes to American farmers there must of necessity ensue a tremendous shortage in the production of all staple farm commodities. This in turn would adversely affect transportation, manufactures and the orderly processes of the business and actual living activities and necessities of the nation.

"If it is the purpose of the conferences now being held by administrative representatives of the Government with those of commerce and labor, to ignore the agricultural industry in such councils for the rehabilitation of national prosperity, we would appreciate a frank expression from you on the subject to that effect. If agriculture must depend upon its specific representatives to map out and lay its position before the nation, there is but one recourse and that is to call the nation wide conference above referred to, in July. In the present shaping of affairs, as appearing in public print, the assembling of such a conference at Washington would appear to be more vitally imperative than ever.

"We wish to take no definite steps until the matter has been presented to your valued consideration and an expression of your views and advices has been received. I beg, therefore, that you will give thoughtful attention to this communication and oblige me with a reply at your earliest convenience."

A GREAT OPPORTUNITY FOR PRESIDENT HARDING TO HELP THE COUNTRY.

THE country is awakening at last to the evil influences of the constant reiteration of this, that and the other about business of one kind and another from Governmental departments at Washington. We have come upon a time when instead of having less politics in business we are literally swamped with politics in business.

There are some folks in Washington who think that the world would cease to revolve if day by day they did not express their convictions on how many revolutions the world should make and under what conditions. One department vies with another in publicity, each one afraid that the other may get more notoriety; and thus the work of department publicity goes on in an endless stream, until the land is literally flooded with stuff nine-tenths of which could just as well be left unpublished. Expense almost without limit is piled on top of expense. Advice on top of advice is given until the business man knows not from moment to moment what move to make next for fear that some department in Washington may put out a statement reversing all the conditions under which he was conducting his business.

We are trying to standardize so many things that after awhile we will standardize as far as may be humanly possible by Governmental work all the brain power and the muscle power of mankind. We will standardize the size and the healthfulness of every baby born. We will standardize the amount of initiative or activity that a man may display, and when we have thus standardized everything to the last word of standardization we will have ceased to be intelligent human beings and become merely automatons which move as the strings are pulled by Washington. If we go on much longer in our present way of doing things of this kind the scientists and some of the theologians which agree with them will not have much trouble in convincing the world that we are all descended from monkeys, because we will have very nearly returned to the monkey stage, without brain power enough to guide us either in physical, mental or spiritual activities.

Some of these points are emphasized by Mr. George S. Williams, President of the Dallas Cotton Exchange, in a letter to President Harding, in which he says:

"The many recent things done by this, that or the other

Governmental department are responsible for the state of semi-panic."

Mr. Williams calls attention to the serious consequences which have resulted to cotton and other interests by recent developments which have arisen out of the rumors and allegations that the Federal Reserve Bank and others had sent out, or would send out an edict that prices were too high and should be reduced. "Our Federal Reserve Bank," says Mr. Williams, "has lost its true function in a false attitude of paternalism;" and "the attitude of the Federal Reserve Bank is passed on through member banks, so that the Federal Banks control the national policy."

We are glad to see one business man who has convictions on the subject, and is willing to express them thus openly in criticism of the unwise policy by which various governmental departments or bureaus in Washington seek to control the movements of the business interests of the country.

Today they tell us one thing; tomorrow they tell us something else. Today they tell us how many acres of cotton will be planted even before the fields are plowed, what will be the demand for farm products basing their statements on the views expressed by the buyers of these farm products, always notoriously anxious to buy at the lowest possible price. Tomorrow they will tell us something else. Today they tell us that the Federal Reserve System will, or will not, increase its discount rate; tomorrow they may tell us something else contrary to what we hear today.

This condition is responsible for the uncertainty and the turmoil in business. Men are no longer intelligent human beings, with brain power enough to decide for themselves, for they are now forced to be the puppets pulled back and forth by the strings that are tied to Washington.

If President Harding wants to render an inestimable service to the whole country he will carry out his promise made at the time of his election, that there shall be more business in Government affairs and less Governmental interference in business affairs. Until in spirit and in truth and in action that policy is adopted no man can know from day to day what course to pursue in his business. But more than that, the present policy is destructive of all self-reliance, of all initiative in business, and will ultimately lead, unless checked, to the destruction of the Government itself.

PUBLIC SENTIMENT RULES THE LAND AND BUSINESS MEN MUST CULTIVATE IT.

BEARING on the suggestion made last week that the business interests of the country had never, with an adequate appreciation of the necessity of cultivating public opinion, carried on a publicity campaign not merely through the newspapers, but in every other way possible, we have recently seen a number of illustrations of the fact that men heading great organizations have often seemed to feel that one statement from them was sufficient. Some of them have written to the effect, as though they thought that when they had once made an announcement regarding welfare work, or kindred activities, the public should accept that as final without any necessity of repeating the statement.

This only serves to show how little some people appreciate the importance of reiteration and how little they realize the unceasing work that is necessary to win public favor, or influence public sentiment.

Forty years ago the MANUFACTURERS RECORD comprehensively told of the South's marvelous resources. All that we have said since is but the reiteration in one form or another, of what we said then, and supporting these statements as far as may be necessary with proofs that daily come to the front. Suppose, for instance, we had stopped at the one statement of what the South has in material resources made forty years ago. In thirty-nine years and eleven months and

twenty-nine days the public would have forgotten everything that we then said, just as the public now forgets everything that is said unless that thing be reiterated over and over again. Only by "line upon line, and precept upon precept," day in and day out, year in and year out, can the truth be made known and kept ever before the public.

This fundamental truth should be heeded by all great leaders of industry and of transportation.

The point is illustrated in a story told by an insurance agent. "The two greatest things on earth," said he, "are the preaching of the Gospel in order to win men unto eternal salvation for themselves, and the insurance of a man's life to protect his family against the disasters of poverty that may follow his death." "These," said he, "are so clear and evident on their very face that you would think that every man would immediately recognize these facts and follow these teachings. But for 1900 years the ministers of the Gospel have had to work unceasingly day in and day out to tell men of the way to insure their eternal salvation through the endless ages of the other world; and since insurance companies came into existence other men have had literally to plead with men to protect their families from financial disaster."

Neither the minister of the Gospel nor the insurance agent can ever let up for one moment. They must carry on this work and *persuade* men to do the things which every man knows as two supreme issues of existence.

Thousands of business men think that when they have made some public statement regarding welfare work for their employes, or as to their individual views on great questions of the hour, they can stop and expect the public to remember what they said. As well might one pour a spoonful of water on the sands of the Sahara and expect it to irrigate that vast desert region. The French are hoping to develop an irrigation plan by which all the Sahara can be made to blossom like the rose, but to do so will require endless work, constant supervision, untiring activity, and the highest skill that can be provided year after year for decades.

The business man who wants to succeed or the business organization which wants to win public favor, and every concern should seek public favor, must recognize that statements once made, unless followed up continuously are like a drop of water on the Sahara. The work must go on and on indefinitely.

The steel interests, for instance, and the oil interests, and the railroads should annually spend tens of millions of dollars, every dollar of which would be returned manyfold, in acquainting the public with what they are doing, and how they are doing it, and how they are trying to serve the public interest.

The breakdown of the railroads has been due more largely to the failure of railroad officials in the past to cultivate public sentiment than to all other causes combined. The denunciation in times past of the oil interests and of the steel interests and of the cotton manufacturing interests has been due to exactly the same cause. Some of these interests have awakened to the necessity of cultivating public sentiment. Most of them have not. Most of them have been under a cloud of public disapproval and criticism which must at times grind the very souls of the people criticized and denounced; but they have brought these troubles upon themselves by the failure of the interests with which they are identified to win public favor by the fullest and frankest and most far-reaching publicity campaign.

The cotton mills of the South endured untold criticisms, bitter and malignant, which could have been prevented to a very large extent if they had told the story of the improvements around the mills, and of the better homes, and the better living conditions of their employes; and told it not

once or twice, or a dozen times, but told it year in and year out, in pictures that reached the eye, in public addresses which told the facts, and in every other method of publicity to reach the men and women of the country.

The railroads of the South have to a large extent pre-eminently fallen down in their responsibility to themselves and to the South, and to the country. With rare exceptions they have never spent one-tenth as much in campaigns of publicity as they should have expended for their own good. How little they have ever done to carry to the farm and the fireside, to the banking house and the business office, the actual facts about Southern climate, Southern healthfulness. Southern resources, can be appreciated when we study what California roads have done for the last 50 years and what they are still doing.

As we said last week, the iron and steel people of the country have permitted themselves to be criticized and denounced scathingly, in the pulpit, in the press, on the lecture platform, from the political hustings, and elsewhere, merely because they have not realized that money wisely expended to educate the public to the good work they are doing is a good investment.

In the meantime the agitator, the anarchistic propagandist, the loud-mouthed soapbox orator, sensational newspapers, have all been busy carrying on their campaign of vilification and misrepresentation, and the business men of the country have done little or nothing on the other side.

Nearly every ill from which the country suffers in the political and economic world can be traced back to the failure of business people of this country to do their duty to themselves and to the country by a propaganda for good to offset the propaganda for evil which has so long been under way.

CO-OPERATIVE WORK FOR CITY AND STATE UPBUILDING ESSENTIAL TO BEST INTERESTS OF THE SOUTH.

MR. BRONSON BATCHELOR, President of the Institute of American Business, in a letter referring to the recent article in the MANUFACTURERS RECORD on Muscle Shoals development work, writes:

"The South is even more fortunately situated in many respects than California in its power potentialities. In inter-connection of the various Southern transmission systems, the natural grouping of large water power plants, and the close proximity of steam reserve plants, the South possesses industrial advantages not possessed by any other section of the country. With freight rates at their present level, and with coal costs mounting on an average of five per cent a year, these great power resources will become increasingly valuable.

"The amazing thing is the lack of knowledge throughout the South on the tremendous power development which is taking place there. I have made several trips through Southern states in recent months, and in talks with bankers, manufacturers, and other business men I find that they know little on the subject of super power, or the benefits it is conferring on the South."

Here is a view from a Northern student of business conditions who in studying the South has been amazed at the lack of knowledge on the part of Southern business people of some of the outstanding facts in regard to their own section. This only brings once more to the front the views which we have constantly expressed on this subject. The South does not know itself. It does not know what is being done, nor appreciate the significance of some of this work.

The same mail that brings us the letter from Mr. Batchelor brings another letter from the far South in which one who has traveled over much of the Southwest, including Texas and Louisiana, in recent weeks, studying business conditions, writes:

"One of the foremost things that has struck me is the

antagonism and selfishness of various interests in the various towns against one another. There is a lack of whole-hearted co-operation which is stifling the growth not only of towns and cities, but of whole states. Cities are jealous one of another and will not co-operate in the right way for the advancement of the state as a whole. One city may feel that it can prosper and advance rapidly at the expense of the rest of the state, failing to realize that the advancement of one city is bound to aid all cities in a forward movement. Many important movements, such as the Open Shop, flourish abundantly in several cities of one state, but a statewide movement has little backing.

"What is needed is a spirit of whole-hearted co-operation. The progress of Gaston county, North Carolina, stands out in striking contrast to the evidences of selfishness and shortsightedness in business interests in many sections I visited.

"It is my belief that undeveloped resources, however great, will be of but little good for enrichment of a section unless the human factor is all right. Many towns and cities have everything from the standpoint of resources, geographic location, transportation facilities and what not, but are practically marking time because the people do not know what real co-operation is. I believe if the MANUFACTURERS RECORD would call attention to this evil and point out striking evidences of forward movement in towns and cities where co-operation has been the watchword, that you will do an untold amount of good. I believe that you could spend much time and give much space to hammering along these lines to the great good of many sections."

These two letters, one from New York and one from New Orleans, reaching us at the same time, give what is practically the same viewpoint taken from different angles. The writer has seen during the past winter many illustrations in Florida of wonderful progress where a spirit of co-operation prevails. He has also seen how some towns are hampered and their development retarded by lack of co-operation, by local or personal jealousies, by criticism of one organization by another organization, of towns split into cliques, the members of one clique always denouncing the members of other cliques. He has seen Kiwanians berate Rotarians, and Rotarians berate Kiwanians. He has seen people who profess to be Christian denouncing everybody who did not agree with their particular views, political and religious. He has seen cities split into factions where neither the spirit of co-operation nor the spirit of Christ prevailed. And so it is in a great many towns and cities throughout the country.

A few weeks ago the MANUFACTURERS RECORD published a reprint of an interview with the editor of this paper which first appeared in the Anniston Star, in which the facts in regard to the failure of Alabama to measure up to its great potentialities was due to the bickering and fighting among the towns and the business people of that state 25 or 30 years ago. Alabama is still suffering from that evil and from absolute lack of a co-operative spirit.

As the individual town, however great may be its natural advantages, makes but little progress where cliques and factions and jealousies prevail, so the individual state makes but little progress when every town or city is fighting what other towns or cities are doing. In some states the people have not learned the real broad spirit of co-operative work. They have not caught that spirit of enthusiastic, whole-hearted state pride and state co-operation which has made California one of the wonders of the world. If the people of the whole South would get rid of these petty jealousies, if they would co-operate in the spirit of civic pride and state pride and South-wide pride, to build and to beautify to build character as well as industries, to utterly destroy the petty jealousies which now exist, there would come such a quickening of the life of the South as to bring to this section in the very near future a development far surpassing the wildest dreams of its most optimistic people. A start is being made here and there, but the room for expansion is without limit.

THE AMERICAN CONSTITUTION MUST BE PRESERVED.

(From address by Governor Pinchot, of Pennsylvania, at Gettysburg on Memorial Day.)

"As the years pass and the lives of men pass with them, the shining deeds which have forever consecrated great periods of our history loom ever higher. The men to whom we owe these deeds take ever more gloriously their places as the makers and preservers of the nation, and receive in ever increasing measure their just due of admiration and praise.

"The more recent events of our National story neither hide nor obscure the great deeds of the past. Neither the sacrifices nor the significance of the Revolution are obscured or hidden by the sacrifices and the significance of the war between the states, nor do we appreciate less, but rather more, what was done for us by the men who preserved the Union because of the heroic actions of the men who in the last and greatest of all wars helped to save the world.

"You who fought for the Union and saved the Union deserve and are receiving more and more fully, more and more justly, as the years go by, the heartfelt gratitude of those for whom you saved it. You preserved it for us who came after you, and for those who will come after us. You solved your problem, which was the preservation of a united nation, so bravely, so wisely, and so well, that as the years have gone the Union has become ever stronger, and even the men whom you defeated now rejoice in the results of your victory. You saved the Union for us, but as you did your work when it was needed so you left it to us to solve our problems as the need arises in our day.

"In your day slavery was the enemy that attacked the Constitution of the United States and the integrity of the Nation. In our day another evil has undertaken to declare its independence of the will of the majority, and to impose its shackles on the people of the United States. You in your time conquered those who attempted to impose the black disgrace of human bondage upon the free states. It is our task to overcome those who would impose the black disgrace of nullification on the people of the Union which you preserved.

"I am not concerned with your opinion as to the wisdom of Prohibition. That is not the question. I am only concerned with the question of loyalty to the Constitution of the United States. That is the issue again today.

"The approval of the Eighteenth Amendment by the States of the Union was practically unanimous. None denies that it is a valid part of the Constitution of the United States, enacted in accordance with all the forms of law. No man of common sense contends that its provisions are otherwise than binding. Those who attack and disregard it do so in spite of its recognized validity. They attack it for one of two reasons—either because their personal profit is found in breaking the law, or because their loyalty to an appetite is greater than their loyalty to the Nation to which they claim to belong.

"You fought for the Constitution of the United States against open attack by men who risked their lives for what they mistakenly believed to be their rights. You fought them and you defeated them, but in the end you came to respect them, as men must always respect valiant antagonists willing to lay down their all for the cause in which they believe. Their attack was fearless and in the open. They fought with heads held high in the sight of all the world.

"The men against whom we, your descendants, must defend the Constitution of our Nation today fight in the dark, run from the police, and use the methods of the sneak thief and the underworld. With no higher motive than profit or appetite, no higher ethics than those of the bandit, the receiver of stolen goods, or the man whose god is his belly,

for personal pleasure or personal profit they attack the fundamental law of the land.

"Their contemptible undermining of the document which cost so many lives of brave men to establish, so many lives of brave men to preserve, is far less formidable than the one which you overcame. It has neither dignity, sacrifice, nor depth of conviction behind it. It rests on motives that are wholly despicable, and it is associated with the lowest dregs of our population. It has nothing to commend it. No sound argument can be advanced in its defense. It is law-breaking, pure and simple, for personal profit or personal pleasure, and as such wholly to be condemned.

"Yet while its methods and purposes are such as every true American must and does despise, its results carry a real threat to the Nation of our loyalty and love. Successful law-breaking in one direction is an invitation to law-breaking in others. The attack is not alone on the Eighteenth Amendment, but on the Constitution as a whole. Our defense against these law-breakers defends the Constitution not merely against their attack but against that weakening of all respect for law, which is one of the worst results of this effort to undermine the foundations upon which our national life and welfare so securely rest.

"I do not doubt that you men who fought to defend this Nation against those who attacked its Constitution in your young manhood will join in its defense against those who attack its Constitution today. But I congratulate you upon this—you at least fought against open enemies who proved their manhood on the field of Gettysburg, and on a thousand other stricken fields, who held up their heads and looked the world in the face. We fight against the hidden forces of the underworld, whose weapon is cunning and whose motive is greed, and all the forces of disorder which have seized upon the Eighteenth Amendment as the pretext for their effort to weaken respect for all law in an insidious attack upon the institution for which you veterans risked your lives and which your comrades died to defend.

"We despise the motives and the methods of these modern nullifiers. We deny that anyone can call himself a good American who joins with them, or fails to practice that obedience to law which is the basis of our American liberty. We propose, God helping us, to use every power inherent in this Commonwealth to assert and vindicate our loyalty to the Constitution of the United States, and to crush, as it deserves to be crushed, the whole base and unworthy effort of the pleasure-seekers and the profit seekers to bring contempt upon the laws and the institutions which make us prosperous and make us free."

COAL MINERS SEEKING TO CAPTURE THE COUNTRY.

APPARENTLY skirmish lines are being thrown out by the United Mine Workers of America in their renewed battle to force the non-union coal mines of West Virginia and the Appalachian District generally to permit unionization of all these fields. If this should be accomplished the United Mine Workers would be in possession of autocratic power over coal mining in America. With the power to absolutely dominate the coal industry, all industry would be subject to the whims of the officers of the United Mine Workers of America, and prices of coal, and prices in all industries in fact, would be subject to the dictates of the autocratic power held by the officers of the Miners' Union.

A convention was recently held by the United Mine Workers of District 19, in session in Middlesboro, Ky. At this meeting resolutions were passed asking the International Executive Board to take the necessary steps for the calling of a strike in all of the non-union mines of District No. 19, "the strike

to be continued until all of the non-union operators are brought under the terms of joint agreement."

Newspaper accounts of the meeting contain the statement that a Tennessee Congressman, named J. Will Taylor, made an address to the miners "which was a constant flow of eloquence, interrupted frequently by loud bursts of applause." Illustrating the character and type of mind of Congressman Taylor, he is stated to have declared to the miners that they had the right to organize and that any person who denied them this privilege had "a soul that would rattle in a mustard seed."

He is quoted as saying that the capitalists were organized, that they held their meetings in fine hotels, enjoyed expensive wines and even had "peacock tongues and humming bird livers" for refreshments.

Anyone at all familiar with the efforts that have been made during recent years to bring all the coal mines of the country under the control of the United Mine Workers of America will recognize that the demagogic appeal of the Tennessee Congressman has nothing to do with the point at issue.

Stripped of all demagoguery and camouflage the issue is whether the coal industry in all parts of the United States shall be delivered, bound hand and foot, to the officials of the United Mine Workers with absolute power to throttle not only the mining industry but every industry in the country, not only wages, hours of work, quantity of production and prices of products would then be dictated in all industry, and serfdom to the miner autocrats would be the condition of the whole country.

CITY BEAUTY AND CLEANLINESS HELP TO BUILD INDIVIDUAL AND COMMUNITY CHARACTER.

COMMENTING on a recent editorial in the **MANUFACTURERS RECORD**, the *Twin City Sentinel* of Winston-Salem, N. C., says:

"Anything that makes a community a better place in which to live helps everybody in it."

That statement was called forth by our commendation of an advertisement of a Jacksonville bank dealing with the elimination of the mosquito in Florida, and the *Sentinel* used that commendation to preach a lesson worthy to be studied everywhere.

It is, indeed, true that "anything that makes a community a better place in which to live helps everybody in it," and it is the duty of every man and woman to do their utmost to beautify and safeguard the health of every place in which they live. "No man liveth unto himself." The unkempt yard, the unpainted house, the tumble-down fence and the insanitary conditions breeding mosquitos and sickness, are liabilities in any community, and the man who permits such things to exist on his property is doing a serious injury to his entire community.

Beauty is profitable when viewed from the purely commercial standpoint. Beauty of architecture, beauty of cleanliness, beauty of flowers and shrubbery, beauty of the freshly painted house and outbuildings and fences—all of these things pay even from the financial standpoint. The rundown, slipshod store repels buyers and repels people from other sections who happen to see it. The town which wants to thrive must make cleanliness and architectural attractiveness a part of its assets. It is folly to advertise a town which is not worthy by reason of its attractiveness to be placed before public attention.

A prominent Baltimore merchant, when attending a meeting some years ago where the question of advertising Baltimore was being considered, said: "Gentlemen, unless you deliver the goods do not advertise."

That is a broad statement, fitting into every situation. If

the goods you advertise are not up to the standard, your money is wasted and the buyer is deceived and does not want your product. The town that advertises to attract business or visitors, and is not clean and healthy and beautified to the extent of the ability of its people, injures itself and lessens the value of all efforts of other towns, because it discredits all publicity work.

Only a narrow-visioned community would attempt to gain money under false pretenses, and when a community advertises itself to a greater extent than its attractiveness and its advantages justify, every dollar spent by the visitor has been swindled out of him, and the town is the worse for the swindle.

When a Jacksonville bank carried a big advertisement saying the "mosquito must go," for the purpose of arousing the community to the necessity of ridding itself of that pest, it was doing community work. It was spending money for advertising which will return directly to the benefit of its stockholders as well as to the community. Publicity of that kind is profitable alike to the advertiser and to the community.

Of what avail is it to invite people into any section or any community where the stores are dirty and the yards are untidy and the houses unpainted, and the sections occupied by some of the poorer classes of whites and blacks alike would disgrace the slums of London?

Young men and women are allowed to grow up in many communities without any adequate recognition of the fact that art is essential—the art which expresses itself in grass and flowers and trees, in clean yards and tidy houses, in clean stores and architecturally attractive buildings—and they are thus handicapped for life.

Character is built up by a study of artistic things. It is injured by a lack of a sense of the beautiful. The unpainted, untidy house affects the character of every individual in it and the community as a whole.

Every high school in the country might follow the example of Tulsa, Okla., which is training its high school pupils to study local conditions, to investigate the general architectural appearance of dwellings and stores, and to write essays expressing their views on this place or that. Any study of this kind would be of value to boys and girls alike. Imagine what it would mean for every high school student to be required to write a weekly essay pointing out why some buildings in the town lack any elements of beauty, and why some, even those of the simplest lines, may be architecturally attractive. Imagine what it would mean for these young people to write of every insanitary condition which they found as they roamed the city. In such a community there would soon be developed a revolution which would change the whole complexion of the town. People realize that town building can be made beautiful and profitable; for the beautiful place is more profitable even from the financial standpoint than the architectural monstrosity. A revolution among high school students for a discussion of all of these phases of community life would beget an improvement in their own conception of things, their own understanding of "art for art's sake" and art even from the commercial standpoint of profit. The character of these young people would be greatly ennobled. Their education would be broadened. They would go out into the world to achieve better things for themselves and for any community in which they lived.

Beauty in a town is commercially more profitable than ugliness. Cleanliness is more profitable than untidiness. Clean stores and painted houses are more uplifting than muddy or dirty stores and unpainted houses, whether these houses be dwellings, stores, factories, schools or church buildings. "Cleanliness is next to Godliness" might be changed to read, "Cleanliness and beauty combined help to build Godly characters and Godly communities."

EINSTEINESQUE DREAMS TO BEFUDDLE THE WORLD WITH GERMAN PROPAGANDA.

REFERRING to some newspaper item which he had recently received about a Teuton's dream of life in some Einsteinesque region Mr. Courtenay DeKalb in a letter to an officer of the MANUFACTURERS RECORD, writes:

"This Teuton asks us to believe in something more difficult than the Nicene Creed. I doubt not that life exists on other planets. Why not? It is a universe made up of the same ingredients, as our spectroscopes prove to us. The lines of the elements appear in the familiar positions in the spectrum; hence they are the same elements. Our so-called (note the word so-called) elements are capable of being arranged under the influence of vegetable life into structures that thenceforth perform what we call functions. They are in fact vitalized, and capable of effecting chemical change, chemical combinations, and chemical dissociations. The unit mass is a cell, and the cell is a unit of protoplasm, which is the vitalized substance seemingly endowed with energy for passing through a series of changes, some of which are for purposes of reduplication or, as it might be termed, reproduction. The thing that I wish to emphasize is that the plant is the organizer of what we call matter, transmitting to it energies of a sort quite different from the atomic and molecular energies, which latter are not in any respect reproductive or similar combinations.

"The next point to note is that all animals are dependent upon plants to provide for their assimilation organized matter to be incorporated into their bodies. Animals take their organized matter at second hand. Some plants, notably the fungi, do the same. But the plant is essentially an organizer, a vitalizer of otherwise inert matter, while the animal is not an organizer.

"Since the universe is essentially homogeneous, save for some segregations, if I may so speak, whereby there might be some solar systems wanting in certain elements abundant in our own system, and since there can be only two possible relations toward this elemental matter, viz., that of an organizer or vitalizer, and that of a re-adaptor of organized matter, I fail to follow the Einsteineschegesprach of our Teutonic Gramatzki and Franz. The forms and functions of life might vary within wide limits, and the centre of nervous force might not be in the expanded differentiated vertebra that we call head and brain, and the plant might make new combinations that would exert new stimuli upon adapting life (animal), but still the two classes of vitalized elemental matter would hold true, as infallibly as the relations between the squares of the sides of the right angled triangle demonstrated by Pythagoras.

"It appears that Germany is financing, as a new kind of propaganda, the inculcation of new and curious reasoning in physics and chemistry to try to redeem a damaged reputation, after the world suddenly woke up to see straight and saw that the Teuton was no genuine discoverer; that he was, in fact, a sort of scientific scavenger, gathering up what other men had found, and working out a multiplicity of changes upon it. Decades ago Germany realized that if she could become the schoolmaster for the world she could wean the world to intellectual slavery to the Teuton. She persisted in saying, in advertising in every way and in every place, even in the pulpits, that the only place in this world to get an education was in Germany; that all science that was not cooked and served in Germany was spurious. She opened her universities without entrance requirements to all the world. Anyone could enter, and if they could pass the examinations they could get a German diploma. That absence of entrance requirements was most attractive. The world came and studied and drank beer and did other German things, and came back and made friends for Germany, partisans for Germany. It was clever. It was also absurd, because it was merely a case of the public eating the breakfast food that they see advertised on every signboard all the way from the office to the home. They hear of that one breakfast food all the time, and they can think of nothing else when they go into the grocer's shop to buy the inevitable cereal for the next morning.

"So they are sending Einstein all round the world to puzzle the people with some reasoning that is not dissimilar from the deductions of the Greek philosophers. I do not mean to say that there is nothing in the theory of relativity, but it has been shown that the central points in the argument have long been understood and used by scientists, only they had not erected it into a system, and labelled it 'Made in Germany.' Not long ago a jester was asked 'Is there a greater man in the world than Einstein?' and he replied 'Oh, yes!

The man who understands him is even greater!' I believe that it is true, eternally true, that any fact of this universe that cannot be explained in common language so that a man of clear intelligence can be made to grasp the principle of it, is not understood by the man attempting to explain it. A peculiarity of Einstein is that he refuses to try to explain his statements. He issues the dictum and leaves it for the other man to interpret. When we come to reading meanings into an utterance we can read into it almost any extravagant significance.

"This wild theory about something neither animal nor plant in other stellar systems comes from Germany; it is intended to create the impression of cosmic greatness in the German brain, and to make the ignorant gape and say 'How wonderful!' Poincaré truly said the other day that the only business of Germany, in all her activities, since there was a Germany, has been war and looting.

"This foolish little cablegram did not deserve all this long discussion, for you must have seen through it at a glance. However, it was a good example of the way in which Germany seeks to befuddle the world, and to bolster her weakened prestige, while she shirks the responsibility for the evil that she has sowed, the death she has strewn over Europe, the misery that she has entailed, the wreck of industrial commonwealths, and the spread of social error to the undoing of other nations on whose carcasses she has hoped to feed. She has no constructive imagination. No people possesses such imagination when they are ready to destroy by any means, in the mere expectation that they can loot the ruined empires."

WANTS TO CONFINE HYDRO-ELECTRIC POWER WITHIN STATE LIMITS.

AN Alabama legislator is reported as intending to introduce into the legislature of that State a bill to forbid the transmission from Alabama of any hydro-electric power developed within the limits of that State except in cases of emergency elsewhere, and when there is a surplus developed power available.

Such a proposition indicates a very narrow conception of how natural resources must be utilized, and pre-eminently so in the case of hydro-electric power. If such a policy were carried out generally Alabama would not be allowed to ship coal out of the State, for coal is as essential to the progress of Alabama as is hydro-electric power. Under such a policy generally adopted Alabama would have to do entirely without oil or gasoline because Texas and other States would forbid the shipment beyond their borders, of a natural resource such as oil. Sulphur could not be shipped out of Texas or Louisiana under such a plan, but would have to be used within the limits of the State.

One only needs to think a moment of these matters to see how absolutely foolish is such a proposition as that which is being seriously discussed by some Alabama legislators. Moreover, the power available within the limits of Alabama is not fundamentally a resource of Alabama to be used only for the prosperity of that State.

The headwaters of the streams from which power can be generated are not in Alabama, but in the mountain regions of other States. These rivers pour down their waters through one State after another, and pass on through Alabama to other regions. The National Government holds the control over every stream in the country that is navigable, and wisely so, because only in this way can the navigation of streams running through different states be safeguarded or developed.

No State has a right to control these rivers. The nation owns them and controls them. And yet Alabama, if such legislation as is suggested were carried out, would undertake to claim the right to say that all the power that could be generated within the State limits by rivers owned and controlled by the National Government should be utilized within the limits of the State. The suggestion is unwise, and should not receive a moment's consideration.

THE OPEN SHOP PRINCIPLE—A SQUARE DEAL TO ALL.

"OPEN Shop vs. Union Taxation" is the subject of a circular letter sent out by the Skillman Electric Co., of Indianapolis. In this letter the Skillman Company say:

"In New York City, where the unionized building trades crafts, receiving \$12 to \$18 per day, are demanding a five day week, almost one hundred million dollars worth of building construction has been postponed because of this taxation imposed by the labor unions. The property owners who have submitted to this domination by permitting a union labor clause in their contracts are largely to blame for this condition.

"In Indianapolis, for the past twelve years, our firm has been operating an electrical contracting business on the open shop basis. We do not recognize the union in our employment relations, and are not governed by union rules and regulations in the conduct of our business. We employ only high-grade mechanics who receive good wages for their individual efficiency and production. We are equipped to do first-class electrical installation on new or repair work, and we solicit an opportunity to make an estimate on any electrical work you may need in a building, factory, store or residence.

"While Indianapolis enjoys an enviable national reputation as a city of industrial peace, where the manufacturing and commercial enterprises are 95 per cent open shop, it is a fact that in no city in the country are the building trades stronger than here, because owners tolerate the union labor clause in contracts. During the recent strike of electricians, while the work of union contractors was delayed, our workmen went on several jobs and finished the work. You probably conduct an open shop in your own business because you believe in the principle of the square deal. Why not patronize other shop firms who are also standing squarely for the industrial betterment of Indianapolis?

"Every dollar expended by you in closed shop building operations tightens the unions' strangle-hold on the construction industry, and makes it harder for open shop employers to maintain their independence. Why should you, through a closed shop contract, furnish the unions with sinews of war which the strike agitators use to prosecute their attacks on labor and industry."

The building trades unions are among the strongest in the country and are capable of wielding a despotic hand, against the best interest of the public. The building and housing shortage is being aggravated by the scarcity of skilled workers in the building industry, which is absolutely at the mercy of a labor oligarchy more powerful in some cases than the ancients ever suffered under. This scarcity of skilled workers, so pronounced in the building trades, has resulted from the policy of unions in limiting the number of apprentices employed on a job. The unions have the autocratic power to say to free young Americans: "You cannot take up this or that trade, because we are absolute rulers and won't let you get a job so long as we have control."

"Your boasted freedom means nothing to us," is the attitude the union leaders take toward men seeking to make a living at work they prefer and for which they are fitted. To the employer and public, the unions say: "you must either use union labor or you cannot build." The liberty of the individual worker and the employer is at the mercy of the closed union shop. It is the rule of class against the free public.

So powerful have the building trades unions become and so vigorous have they carried out their "no apprentice" policy, that there is less skilled labor employed in the building industry now than there was in 1910. On this point the latest figures of the Census Bureau show that in 1910 there were 161,000 brick and stone masons and only 131,000 in 1920, a decrease of 30,000 skilled workers in this one trade. In 1910 there were 47,000 plasterers and in 1920 only 38,000; in 1910 there were 14,000 roofers and in 1920 only 11,000; and in 1910 there were 35,000 stonecutters, and only 22,000 in 1920.

Between 1910 and 1920 this country gained in population

over 13,738,000 and there is a veavy shortage of homes and miscellaneous buildings. But during this ten year period skilled workers decreased in the five most important building trades by about 80,000 when there should have been a substantial increase, in view of the building needs of the country.

One illustration of the highhanded, autocratic methods used by unions when they become so powerful that they do not apparently hesitate to use might for right, is the ultimatum issued by the union leaders of Baltimore to the builders of the new Citizens National Bank building. The Bethlehem Steel Company erected the steel skeleton of this twenty-story building on the open shop basis. The unions objected to union labor working with non-union men and forbade union bound labor to work. The Bethlehem Steel Co. proceeded with dispatch to complete the steel work with non-union men. The building contract was awarded to the Geo. A. Fuller Co. The union officials with one sweep have attempted to abrogate man's right to work and the right of the individual to pick and hire employes by the published statement that before union brick layers or other union labor can be used to finish the building, that the twenty stories of steel work now complete must be torn down and rebuilt by union labor. Apparently the unions have not insisted that the building be torn down with union labor. Needless to say the Bethlehem Steel Co. and the Geo. A. Fuller Co. will not be intimidated by such threats of union bosses drunk with power. Union labor when it reaches such a point of strength and is misguided is riding for a fall. It was suggested in the articles in the daily papers about the building, that the union leaders wanted the steel skeleton to be a monument to union labor. Maybe the union leaders are smarter than we thought and see the end of their autocratic power, for is it not the custom to erect monuments to the dead? The new twenty story Citizens National Bank building may more appropriately be the tomb of union despotism.

SHOULD AMERICAN EMPLOYERS HAVE THE RIGHT TO CONTRACT FOR SKILLED LABOR ABROAD?

M R. W. E. CLOW, president of the James B. Clow & Sons, manufacturers, of Chicago, in a letter to the MANUFACTURERS RECORD discussing some phases of labor employment and immigration, writes:

"From my point of view it is a very serious matter to the population of this country as well as to the colored race, that the agriculturists of the South should be drawn into the industrial regions of the North. The movement of so many of the colored population from the South has only just commenced. If immigration is restricted it is going to continue and increase, to the ultimate detriment, not only of the colored people but our entire country. The only way possible for us to prevent it is to increase selective immigration. The words 'selective immigration' are being used all over the country, frequently without any idea of what that means to the employers in the United States.

"In my opinion, what we need is the same right we had years ago, when to secure labor needed to operate our mills we sent the best men we had in our employ—always accompanied by their wives—to any country from which we desired immigrants to settle down in an industrial center—choosing from the workmen the very best men and sending them to this country. In that way we secured good mechanics who made good American citizens. Today, instead of this method that answered our purposes so well and gave us such a high class of immigrants, we are being flooded with dependent immigrants who are brought to this country by relatives now resident herein. Today, and since the war, it is much cheaper for a foreign born person residing in the United States to advance funds to a relative in Europe, to bring him to this country and to be repaid, invariably with good interest; and that's what they are doing. Shortly after the war there were few foreign born Americans among our employees, or employees who had relatives in Europe, who were not sending money every month to their relatives. Today

that has largely ceased, simply because *they have brought the relatives to this country*. It made no difference to them whether they were needed here or not; they knew that if they were brought to this country they could find work and repay them and they would not have to send away money. Consequently they were brought here.

"I believe that three per cent net would be quite sufficient to take care of our requirements if employers were permitted to contract for the labor in Europe and bring in only that labor that was required.

"I commend this point of view to our consideration."

Mr. Clow takes the ground that our present 3 per cent law would afford ample supply of labor if employers were allowed to select in Europe the kind of employees actually needed, as was done in former years. That would seem to be far preferable to the present system which is bringing to us many aliens having no trade nor any regular means of earning a living except by their wits. A combination of selective immigration with a provision such as that suggested by Mr. Clow could be made far preferable to what we now have. But even then extreme care would be needed in selecting these contract employees.

THE SOUTH'S OPPORTUNITY AT THE NATIONAL CHEMICAL EXPOSITION.

THE Southern Section will be re-established at the Ninth National Exposition of Chemical Industries, to be held at the Grand Central Palace, New York City, the week of September 17.

Space has already been reserved in this section by the Southern Railway, the Central of Georgia Railway, the Alabama Power Company, Southern Cotton Oil Company, U. S. Industrial Alcohol Company, MANUFACTURERS RECORD and a number of other business houses who have plants or branches in the South.

In addition to these, however, there ought to be a stronger representation on the part of other Southern railroads, power companies and city and state governments. The Chemical Exposition affords one of the best opportunities available in the country for bringing the minerals and other raw materials of the South to the direct attention of the kind of people who are interested in them and who are continuously studying and investigating places where they can not only secure the raw materials they need, but also establish plants for manufacturing their various products.

The attendance at the Chemical Exposition embraces the foremost chemists of the country, as well as a great many important manufacturers of all kinds of equipment and machinery that enter into such industries, and a number of leading financiers and business men who are interested, directly and indirectly, in the great American chemical industry which has been established during and since the recent war. The benefits that can be derived from an exhibit at this exposition cannot be overestimated. The last exposition where the South was strongly represented was at the 1917 Chemical Show, when five Southern railroads, two Southern cities and two Southern states, in addition to a number of Southern manufacturing plants, had extensive exhibits which showed a vast array of the various minerals and other raw materials which the South offers. These exhibits were so well displayed that they attracted unusually wide attention, and the Southern Section was conceded to have been the feature of the Chemical Exposition of that year.

There is no question that this section would have grown and expanded each year since but it was practically broken up at the time the Government operated the railroads and discontinued the Industrial Departments, under whose direction such exhibits were made. During the interval the MANUFACTURERS RECORD has had an exhibit at each Chemical Exposition, its purpose having been to bridge over the gap and

keep the minds of the chemical interests centered on the South until such time as the Southern railroads and others could feel justified in again carrying appropriate exhibits at the exposition. It is gratifying to see the splendid start that promises to be made with the show next fall.

At the exposition held last year Canadian railroads and Canadian industries, as well as the official government, collaborated in a truly remarkable display of what Canada offers for such industries. They have been quick to catch the vision of opportunities offered them by the Chemical Exposition. Surely then the South, which played such an important part in the establishment of the American chemical industry, ought to be more strongly represented there, with every assurance that the money so spent will result in real benefit by bringing into production many of the resources that are now latent.

For those who may desire further information about the exposition next fall, this can be obtained by addressing Charles F. Roth, Manager, National Exposition of Chemical Industries, Grand Central Palace, New York City. Mr. Roth has been one of the managers of the Exposition from the beginning and has made numerous journeys through the South to point out the opportunities which the exposition offers the South, and he has always taken a special interest in helping to develop the Southern section.

THE INTERNATIONAL HARVESTER CO. PROPOSES IMPORTANT EXPERIMENTAL FARM WORK IN SOUTH.

M R. H. G. SHALLENBERGER, manager of the Agricultural Extension Department of the International Harvester Co., writing from Chicago to the MANUFACTURERS RECORD giving some details about the establishment of a demonstration farm in the South, says:

"We have been looking over Georgia and Alabama with the view of establishing such a farm. We have two of these in the northwest of 320 acres each, in the large wheat area, where we are endeavoring to show the advisability of diversified farming to the one-crop farmer of the northwest.

"Truly, the South needs it, where cotton is the most exclusive crop, if it is needful anywhere in the world. Such a farm is not a gold-plated one. We rather prefer to take one that is run down and show how it can be built up with manure, growing legumes, by keeping a herd of dairy cattle, and feeding what is raised to live stock, the farm to be equipped with modern machinery such as any farmer is able to buy on a farm of 160 acres or more. We keep a record of what is accomplished on the farm and each year we issue bulletins, distributing the information to all the farmers that may be interested, which, in the case of our Dakota farmers, includes all of the northwest section of the United States. We demonstrate the proper care of farm machinery, the advisability of keeping good live stock, showing how the cattle and hogs particularly can be improved by the use of full bred sires.

"We know that we have done a great work in this line in the Northwest, because in eight years time thousands of farmers have gotten away from wheat alone and are now raising crops and making money on them that they did not know before could be grown in that section.

"We believe that this is about all there is to say, further than to state that we, of course, have a good home for our overseer, good fences, good outbuildings, but not expensive ones at all."

• The best portion of a good man's life, his little, nameless, unremembered acts of kindness and of love—Wadsworth.

IMPORTS CONTINUE TO INCREASE.

DURING April the value of imports was \$364,230,006, an increase over April, 1922, of \$147,207,000 or over 67 per cent. For the ten months ending April, the United States imported \$3,089,096,651 worth of merchandise. Compared with \$2,094,800,856 worth of merchandise imported during the corresponding ten months of 1922, this is an increase of \$994,295,000, or over 47 per cent.

TOTAL VALUES OF IMPORTS OF MERCHANDISE BY GRAND DIVISIONS AND PRINCIPAL COUNTRIES.

Imports From	Month of April		Ten Months Ended April	
	1922	1923	1922	1923
	Dollars	Dollars	Dollars	Dollars
Grand Divisions—				
Europe	65,666,909	105,854,799	680,124,617	969,950,051
North America	63,323,044	103,345,968	556,699,703	794,208,800
South America	22,889,193	46,421,999	226,706,996	384,956,255
Asia	53,652,264	89,442,615	562,212,410	804,763,289
Oceania	5,021,546	10,870,857	23,218,296	58,001,591
Africa	6,470,186	8,293,768	45,838,834	77,216,665
Total	217,023,142	364,230,006	2,094,800,856	3,089,096,651
Prin. Countries—				
Belgium	3,878,866	5,873,518	33,373,410	52,305,416
Denmark	98,755	322,076	3,621,406	5,225,022
France	10,742,458	13,729,548	117,972,831	128,776,211
Germany	8,496,759	13,641,800	77,476,289	118,031,117
Greece in Eur.	1,806,623	1,155,486	15,387,571	18,092,412
Italy	3,597,615	7,308,709	50,971,046	70,257,136
Netherlands	3,028,013	8,327,212	41,984,114	63,523,629
Norway	1,052,081	1,562,028	10,007,124	15,432,429
Russia in Eur.	740	101,989	21,194	751,868
Spain	1,724,048	2,982,930	23,507,057	27,579,440
Sweden	1,928,700	1,665,483	20,351,752	34,112,971
Switzerland	3,238,139	2,625,869	35,893,554	29,600,428
United King.	22,121,821	41,364,258	217,773,454	361,041,225
Canada	21,296,458	36,248,859	249,001,689	340,284,653
Cent'l America	3,398,098	5,148,454	23,858,315	29,735,780
Mexico	12,098,969	12,348,617	100,542,939	112,448,890
Cuba	24,603,054	47,166,176	160,194,547	287,615,448
Do. Republic	286,845	465,339	6,407,818	4,175,175
Argentina	4,439,569	15,052,493	46,795,151	102,138,166
Brazil	8,683,278	11,402,435	80,668,479	120,463,215
Chile	3,636,788	9,289,130	27,126,944	71,799,654
Colombia	2,237,233	4,230,612	35,998,824	52,126,916
Peru	852,518	558,578	11,750,275	13,232,409
Uruguay	1,035,718	3,895,431	7,292,979	23,458,159
Venezuela	1,212,538	807,887	9,842,626	11,960,158
China	10,366,750	15,487,090	91,705,203	140,960,633
British India	7,292,759	11,182,131	60,726,798	95,687,193
Straits Settlements ..	7,789,183	15,926,174	58,255,338	101,459,529
Dutch E. Indies	1,622,197	5,778,297	22,336,027	37,664,949
Japan	18,990,442	26,479,850	241,996,605	315,284,632
Philippine Is.	4,245,437	9,043,426	46,512,665	57,465,036
Australia	3,355,832	8,427,748	13,943,482	44,365,090
New Zealand	1,472,126	2,281,056	7,379,211	11,602,748
Br. So. Africa	1,612,736	1,656,678	4,543,745	11,211,055
Egypt	1,554,636	2,829,948	30,172,287	42,434,139

REVIEWS SHIPPING BOARD OPERATIONS.

IN a letter to President Harding, announcing his retirement as Chairman of the United States Shipping Board, Albert D. Lasker gives a report on the accomplishments of the Board during the two years of his Chairmanship. Among the achievements Mr. Lasker mentions, are the settlement at twelve cents on the dollar of claims aggregating \$200,000,000; the bringing of the Emergency Fleet Corporation out of chaos into an economic, efficient and distinct entity; the reduction of its deficiency from \$16,000,000 a month to \$4,000,000 a month; the development of commerce through the operation of American ships and the disposal of surplus real estate and materials.

At the end of the current fiscal year the Shipping Board will have on deposit in the Treasury, Mr. Lasker states, \$125,000,000 as against a total cash reserve of \$4,000,000 it had when Mr. Lasker took office. After reviewing the administrative work accomplished, Mr. Lasker makes recommendations concerning the proposed Government operation of America's merchant marine in the event the pending negotiations for sale of the fleet to private American individuals and firms are not successful. He points out the disadvantages of Government ownership and recommends this course only as an alternative. "My conviction is," he states, "that there are inherent in any form of Government ownership of a merchant marine marked disadvantages as compared with private ownership which cannot be overcome, and this opinion has been emphasized every day of my tenure of office."

PROTECTIVE TARIFF BENEFICIAL TO ALL INTERESTS.

THE general prosperity now prevailing throughout the South, due in large part to the tariff schedules enacted in the permanent tariff bill, offers striking evidence of the great service rendered by the Southern Tariff Association, states the auditing committee of that association in a recent report to the president, Mr. John H. Kirby.

In endorsing the manner in which the records have been kept and the funds of the association spent, the report says: "In our opinion the money contributed to its support has been wisely and judiciously expended in the interest of the sixty-three organized industries composing the Southern Tariff Association, and also to the welfare of general Southern industry including agriculture and livestock."

HEADED SOUTHWARD.

W. E. MITCHELL, of the Alabama Power Company, writes the MANUFACTURERS RECORD: "The inquiries coming to us from the North in regard to Alabama in particular and the South in general, are increasing every day, so that the splendid work done by your great paper, and by ourselves and all others who are interested in the South, is beginning to tell."

Production of Stone in 1922.

All kinds of stone produced in the United States in 1922 amounted to about 81,000,000 short tons, valued at \$118,500,000, according to an estimate given out by the Department of the Interior. Compared with 63,538,740 tons of stone valued at \$106,962,266 in 1921 these figures show an increase of about 27 per cent in quantity and 11 per cent in value. The production of stone of all kinds in the South in 1921 was over 13,097,000 tons, valued at about \$23,051,000, and it is estimated that in 1922 the production and value of Southern stone increased in about the same proportion as that reported for the entire country.

There was a good demand during the year for nearly all kinds of stone but the production of monumental and building stone, paving blocks, curbstone, and flagstone was somewhat restricted by labor troubles, which caused the closing of quarries and cutting plants, especially at the principal granite centers in the New England States. Trouble was also experienced in getting transportation for crushed stone and other stone products. The cost of quarrying was somewhat less in 1922 than in 1921, and prices were lower.

Building stone was in good demand.

Granite for paving blocks decreased about 20 per cent in quantity in 1920 as compared with 1921.

There was an increase in the quantity of stone sold for curbstone, flagstone, and rubble, but a decrease in the quantity of that used for riprap.

The production of crushed stone, which represents over 50 per cent of the stone quarried, was estimated at 52,600,000 short tons in 1922, an increase of about 22 per cent. Crushed stone sold for use in road metal and in all kinds of concrete work increased about 24 per cent and stone sold for railroad ballast about 13 per cent.

The revival in 1922 of the metal-smelting industry increased the demand for stone for use as flux over 74 per cent. The estimated quantity of stone used for this purpose in 1922 was 18,595,000 short tons.

The stone sold for use as refractory material also increased in 1922 as did the stone, chiefly limestone, sold for use in the chemical industries.

The quantity of pulverized limestone sold for use in liming farm land was estimated at 1,180,000 short tons, a decrease of 10 per cent from 1921.

Texas at Work in State-Wide Campaign of Expansion in Textile and Other Industries.

ADVANTAGES FOR COTTON MILL DEVELOPMENT STRONGLY EMPHASIZED ON TOUR OF STATE BY BUSINESS MEN FROM NEW ENGLAND AND THE SOUTH—21 TEXTILE PLANTS NOW OPERATING—A NEW ENGLAND EXPERT SAYS NEW ENGLAND CANNOT BUILD ANY MORE COTTON MILLS.

[Special Correspondence Manufacturers Record.]

Dallas, Tex., June 11.

The entire state of Texas is being roused to its possibilities for industrial development as perhaps never before. Governor Pat M. Neff is the leader in the movement, and to his support have rallied scores of civic organizations, boards of trade, chambers of commerce, dinner clubs, business men, bankers and manufacturers. The campaign for industrial development, for such it has resolved itself into, is progressing according to well laid plans. The first step being educational is to acquaint the people of the state with the possibilities for creating wealth, for insuring and stabilizing prosperity through utilization to the fullest extent of native raw materials in the production of finished products within the state.

Selling Texas to Texans is thus the order of the day. The first statewide movement in behalf of industrial expansion has recently been concluded by the Texas Chamber of Commerce, James Z. George of Dallas, vice president and general manager. "To encourage the expansion of the textile industry in Texas, to advertise the great natural resources of the State of Texas to its citizens and to the United States, and generally to aid in the further development and betterment of every character of our manufacturing industry," a week's tour was conducted through every section of the state. Headed by J. Perry Burrus a party of about 30 persons representing every phase of the cotton industry visited 12 important centers chosen as favorable locations for mills following a survey by Burt C. Blanton, manager of the Industrial Department of the Texas Chamber of Commerce. The party included mill owners and operators from Texas, New England and Southern states, machinery manufacturers, architects and engineers, distributors, producers of cotton, and representatives of the textile and daily press, in addition to heads of textile mills now successfully operating in Texas.

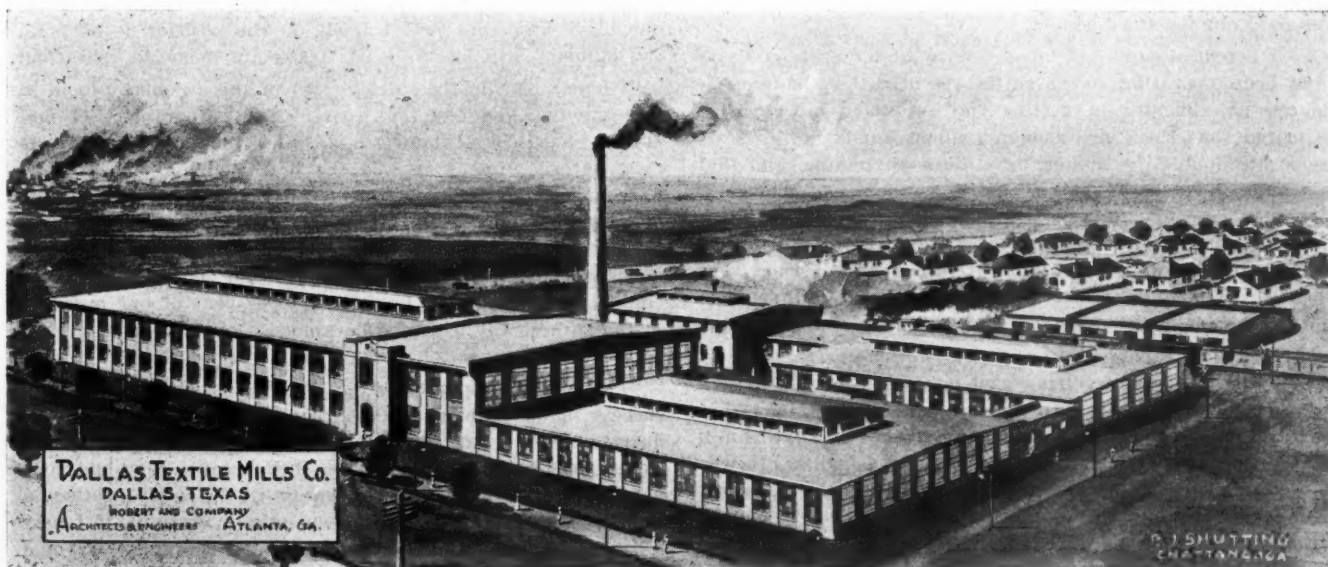
All of the meetings were well attended by representative groups of business men, and there are indications that the

movement may be the beginning of an era of industrial development such as Texas has never before enjoyed. And in this connection Gov. Neff says:

"We have never realized or appreciated the matchless possibilities Texas offers to the business world for manufacturing within our own borders the natural resources and productions of our state. The textile industry has greater possibilities here than in any other section. One-fourth of the cotton of the world is grown in Texas fields, yet we operate only a few small mills. Why should we ship out millions of bales of cotton a year to be manufactured into finished products, and then buy the finished cloth? Cotton should be turned into finished products here, and after supplying our own needs we should ship through Texas ports to every harbor upon the broad seas. Although we have the largest sheep ranches in the world and the largest wool markets, we have no woolen mills. We produce the major part of the mohair of the world. We send every pound of it to New England states, to be made into clothes and then shipped back to Texas.

"To turn our raw materials into the finished product would mean more to Texas than all her oil wells. If we can make a living by merely growing cotton, and other states and countries can become wealthy and more prosperous than we are by manufacturing our output, it goes without argument that if we ourselves will do our own manufacturing, Texas, by leaps and bounds will quickly mount to the pinnacle of wealth and power. In just a few years we would become the wealthiest country in the world. Let Texas be known in all countries, not only as a leading producer of the products of the soil, but as an empire, as she has a right to be, in the manufacturing world.

"Texas should make conditions conducive to the building of factories in the state. We have been endowed with abundant natural resources and it is up to the people of Texas to do their part to see that we are not deprived of the wealth that



\$1,000,000 TEXTILE PLANT NOW UNDER CONSTRUCTION AT DALLAS, TEXAS

is justly ours. If we continue to let a stream of gold flow out of Texas, no one is to blame but ourselves."

And so today Texas wants industries and promises to support and foster new establishments by wise legislation. While outside capital is welcomed, the development of new industries initially will be undertaken by residents of the State. There are now operating within Texas about 21 textile mills, and additions and improvements are being made to a number of these, while a million dollar mill is being built at Dallas by Mr. Burrus, and associates. For a number of years Mr. Burrus has managed the Texas Cotton Mill Company at McKinney, and several months ago met with a number of bankers and business men in Dallas to discuss the feasibility of building a mill there. The result was that a week after the first meeting was held more than \$1,100,000 was subscribed and further applications for stock had to be turned down. Not only was the amount oversubscribed, but when it was brought to the attention of the stockholders that possibly more funds would be needed, every one stated his willingness to double if needs be, his original subscription.

The new firm is known as the Dallas Textile Mills Co., and the plant will be erected at Love Field, six miles from the center of the city. It was designed by Robert & Co., Inc., architects and engineers, of Atlanta, Ga., and the building contract has been awarded to the Inge Construction Co., of Dallas. Weaving equipment is to be furnished by the Hopedale Manufacturing Co., Hopedale, Mass., and all other machinery will be purchased from the Saco-Lowell Shops, Boston, Mass.

The mill building will be modern in every respect, and the village for operatives will be complete with such conveniences as sewers, water, gas, electricity, etc. All equipment will be electrically operated.

The essential requirements for success of the industry within the state as pointed out by the members of the party include:

1—Adequate capital. Not only must there be enough capital paid-in to insure completion of the mill, but there should be a surplus of 25 to 30 per cent available for operating costs. Most of the mills previously started in the state had too little capital and found that when their plans were complete that not only were they in debt but there were no funds for operating. Many bought too much land, and this added to the carrying charges. To insure success it was recommended that promotion schemes would have to be eliminated and that all stock sales should be made by members of a special committee. In the case of the new mill at Dallas not one cent was paid out for stock selling.

2—A potential supply of labor. Many of the mills in Texas have been operating extra shifts recently, but have experienced no difficulty in getting the necessary labor. It is estimated that there are enough trained hands in the state to operate double the number of mills now running, and that this number can be added to easily, as there are thousands of women now unemployed. Mexican labor in abundance is available, and those who have used Mexicans in mill operations state that they are quickly trained and become very efficient. Warnings were issued by present mill owners against the importation of foreign labor from New England.

3—Good and capable business men for executive management. The problem of getting men to manage new mills will be easily solved, according to mill owners. Applications have already been received from men now engaged in textile mill work to put from \$10,000 to \$50,000 in Texas mills. It was pointed out by machinery men that there was nothing mysterious about textile mill operation, but that good common business sense was most needed.

4—Trained operating organization. Very essential to success.

5—A properly designed and equipped plant. Warnings were issued against erecting plants without proper engineering and architectural advice. The exclusive use of new machinery was suggested, because quite a number of early mills had failed owing to the use of second-hand equipment.

6—An adequate and economical source of power. Quite a large number of power plants were visited on the trip and figures were given that showed conclusively that power could be purchased by mill operators at practically the same figure as for hydro-electric power in the eastern section of the South. Some of the plants are equipped to operate on coal, gas and oil. In many sections the supply of gas is estimated to have a life of from 15 to 20 years, and is now being sold for from 5 to 7 cents per 1000 cubic feet. Fuel oil is readily available by tank car, and pipe line, and recently a quantity was purchased at \$1 a barrel. Lignite in abundance is available for fuel in many localities, and exhaustive tests are now being made to perfect the use of this material. Electric transmission lines spread fan-shaped over many sections of the state, and millions of dollars are now being expended in new buildings and equipment and lines. Hydro-electric power facilities are being seriously considered in conjunction with the establishment of mills and other industries. It was recommended that as far as possible power be purchased, initially, rather than produced at private plants which would add to the investment. Then, too, the interconnected lines of public service companies insure uninterrupted service.

7—Proximity to raw supply. The superior quality of Texas cotton was emphasized because of its good working qualities, giving stronger thread, greater production and better goods. Texas mills are able to buy to distinct advantage over mills in other states, it was stated.

8—Proximity to market.

Some pertinent statements were made by the members of the party, among which are the following:

George Otis Draper, Milford, Mass., representing the Hopedale Manufacturing Co., said: "There will be no future development of the textile industry in New England. Unwise legislation providing a 48-hour law in two states has made it quite impossible for many mills to compete with those of the South. Not only has this affected the building of mills but little other building is under way in many centers. In the place where I live there is a builder next door to me who has had but one job in two years and that in a town 12 miles away. Many of the plants have old machinery that is well nigh worn out; and new machinery being placed on the market far exceeds it in output and quality of work. Why, one big center that prides itself on the position it holds in the industry still has at least 1000 plain looms in operation.

"I had a part in the introduction of the automatic loom in this country, and feel that scarcely any other piece of machinery has had so much to do with increasing wealth as this. At the time I showed the first model at the World's Fair in Atlanta the New England people turned their heads and wouldn't buy because it meant tearing out the equipment they had, but Southern mills were quick to appreciate the new loom and today there are more than 200,000 such looms running in the South. Less than 1 per cent of our orders—in fact practically a negligible amount, come from New England mills, the remainder being from the South.

"That there is money in textile mills is evidenced by the success made by men practically unacquainted with the industry. Why I have known doctors, lawyers and merchants to start mills and make successes, just because they had good hard business sense—that is what is needed. My brother, a lawyer in the Carolinas, has been quite successful, if I may become personal. He bought some stock selling at \$50 and sold out at \$250. A doctor friend made a success of one mill, which previously hadn't shown good returns, and six times

he sold stocks for a like number of mills, all of which are successful.

There are mills in the South operating with a per spindle capital many times that of old established New England mills, yet they are showing far greater profits than the latter. True, Today's building costs are greater than those of a few years ago, but you get better machines, you get the advantage of building on the mistakes of others; you have every advantage of labor, power, proximity to raw materials and to markets. High freight rates are with us to stay, I believe. Texas opportunity is here. Will she grasp it?"

Rogers W. Davis, of Charlotte, N. C., representing Saco-Lowell Shops, said:

"I believe the new technological college to be erected at a cost of \$1,000,000 will be a great aid in the industrial development of your state, and particularly of textile mills. For the present you can draw your trained help from the Georgia Tech.

"There is money to be made in the textile industry, as indicated by the reports of your own mills and those of the Carolinas, Georgia and Alabama. They will give employment to many of your women who now have no work."

J. Perry Burrus, of Dallas, representing the Texas Cotton Mills Co. and the Dallas Textile Mills Co. stated:

"Our mill at McKinney has been very successful, as have most of the mills in the state. Failures have been largely due to mismanagement, use of second-hand machinery, under-capitalization and unscrupulous promotion methods, but I believe the industry in this state is now upon a sound basis."

A. L. Smith, Hillsboro, Texas, representing the Hillsboro Cotton Mills Company, said:

"Our little mill experienced difficulties initially due to undercapitalization, but today we have \$600,000 invested and are making improvements steadily. Recently I purchased a block of stock from a man who was moving. He had paid \$500 for it 15 years ago, and had received dividends covering this amount, but I paid him \$4100 for it."

Commercial Possibilities of Potash in Lakes of West Texas.

Austin, Tex., June 6—[Special.]—In a report on the alkali lakes of West Texas, just issued by the Bureau of Economic Geology of the University of Texas, the possibilities of commercializing their potash contents are discussed. It is shown that the brines of the Double Lakes, near Tahoka in Lynn County, are especially valuable in potash. The report of the Bureau includes estimates on plant requirements, cash requirements, cost of production and profits, as well as the probable price of foreign potash. These statements are based on the judgment of engineers who made the investigation and wrote the report. These engineers were Dr. H. P. Bassett, C. C. Meigs and G. B. Slaughter. Discussing the tests made of the brine of Tahoka Lake and Double Lakes, the report says:

"All these lakes were surveyed and laid off in sections of 400 feet square and test wells put down to outline the pumping area with the following results:

"Tahoka Lake showed about 125 acres of pumping area striking veins at different levels in blue shale. The flow, however, from the different veins was not strong, but the value quite high. A number of these wells were pumped, but only showed an average flow of 0.56 gallons per minute, running about 15 Baume.

"Rock was struck at an average of twenty feet under the surface and in one case an effort was made to go through this, but with the tools at hand, it was impossible and this was given up. It was thought brine might be encountered under this rock, but this was left for future investigation. Tahoka Lake did not look attractive from results obtained.

"The next lake investigated was Double Lake No. 1. In this

between 400 and 500 acres of pumping area was encountered in the lower portion of the lake, veins being struck in nearly all cases in blue shale at three different levels; at four feet, nine feet and bottom of wells. The brine flowing from all wells tested the same strength and the same potash content. A number of these wells in one portion of this lake seemed to be under pressure and would flow out on surface of lake.

"In Double Lake No. 2 almost the entire lake is pumping area with a strong flow. In either of these lakes, we were assured of ten gallons per minute or better and no doubt could furnish 2000 tons of concentrated brine per twenty-four hours. The general trend of the brine area was from northwest to southeast with rock hills on west side and sand hills on east side.

"The flow as stated above being so general, the actual flow was determined in each lake by drilling an eight inch hole and determining the direction a wand would move. It invariably took the direction as stated above.

"From these facts, namely formation, direction and determination of flow, it appears that the brine occurs in an underground stream.

"The brine grew stronger in solids when pumped for several hours and the solids were very constant in potassium chloride.

"The amount of brine is without doubt inexhaustible for a plant using 2000 tons of brine per day.

"After investigating Tahoka very thoroughly, we came to the conclusion that there was only about 125 acres out of a total lake area of 1000 acres that would be available for operation. This 125 acres probably support some 1000 wells with a continuous capacity of approximately two-tenths of a gallon per minute. We cannot recommend Tahoka Lake as a working proposition until a further investigation is made tending to prove whether or not a considerable vein of potash bearing water is contained under the rock which lies on an average of twenty feet under the entire lake bottom. The surrounding indications seem to show that there should be an abundance of water there. Puncturing the rock might open this up.

"The water in the wells in this lake showed an average Baume of fifteen degrees with one and one-half per cent of the solids, potassium salts. The remainder of the solids being easily recoverable salts, such as sodium chloride, magnesium chloride and sodium sulphate.

"Double Lakes are very much larger; the two lakes approximating some 1500 acres in extent, of which fully two-thirds is pumping area with an almost inexhaustible brine supply. We put down several hundred wells in these lakes and all of these in actual pumping area were capable of delivering five gallons of water per minute or more. In fact, we pumped some of the wells for a period of two days at the rate of fifty gallons per minute per well without any indication of lowering the water in the wells. I believe it would be easily possible to obtain from either one of these lakes, No. 1 or No. 2, 1000 gallons of water per minute, continuously and this with very few wells. The brine averaged from eighteen to twenty degrees, Baume with a potassium content of approximately one and one-half per cent referred to the brine, the remaining solids being salts such as sodium chloride, magnesium chloride, sodium sulphate, etc. I believe it would be possible to continuously support a plant producing 650 tons of solid per day from these two lakes.

"The above facts are given only after very careful investigation conducted by competent men."

The report says, in conclusion:

"While this has been referred to as a 'potash proposition' the fact is that two other valuable products are made which gives it a decided advantage over other American potash plants in operation, only one of which has produced by-products up to this time. * * *

"Either the salt or magnesia is more valuable than the

potash. The outstanding feature that we want to emphasize is that the salt should pay for all operating and overhead expenses and the other products represent net profits. The potash is a valuable by-product for which there is a very much larger demand than the amount that will likely be produced in this country for many years to come. Magnesia apparently can be produced so cheaply as compared with any processes now in use that it could be shipped right into Philadelphia in competition. * * *

It is estimated that a plant capable of handling 1000 tons of brine a day would cost \$984,000, divided into the following items: Plant cost, \$584,000; payment on lakes, \$100,000; magnesia plant, \$100,000; working capital, \$200,000. Such a plant would give employment to about 125 men. It would yield daily values, at present prices, as follows: Potash, \$2302; magnesia, \$2950; salt, \$2686. Total, \$7398, less 15 per cent plant losses, amounting to \$1190, which leaves a daily net revenue of \$6748.

It would be practicable to construct a plant of much smaller tonnage, it is explained.

In proof of the fact that the alkali lakes in Lynn County are fed from below it is stated that while at times the country is very arid the surface of the lakes is always wet and muddy.

"A hole dug into the muds or silt, although it may not strike a layer of crystals or sands, will slowly fill with brine," the report says. "This is one of the best indications of the permanency of supply."

A branch line of the Atchison, Topeka & Santa Fe Railroad, runs near the Double Lakes and Tahoka Lake.

Referring to foreign potash production, the report says:

"From a report recently received from a reliable source by the Bureau of Foreign and Domestic Commerce, we are given considerable first-hand information relative to the potash situation in Stassfurt. Briefly this states that the mines are working at about 85 per cent of normal due to inefficiency of labor and that very little refined product is being produced due to the lack of fuel. Stocks are quite small and the output will barely take care of the domestic requirements and supply the British requirements contracted for. Almost the normal number of men are employed, but the efficiency is quite low. Price of labor has increased to about three times pre-war prices, coal is almost unobtainable and steel and other essential supplies run as much as ten times pre-war costs.

"We believe it is conservative to say that present costs are now three times pre-war price, or about \$1.20 per unit and that they are not likely to be reduced to less than 80 cents per unit, to which must be added heavy taxes, ocean freights, interest and depreciation, etc., so that the price delivered at American ports is not likely to be less than \$1.25 per unit for several years to come. The consensus of opinion of those best posted on the subject seems to be that this price is not likely to fall below \$1.50 per unit.

"The potash industry of the United States is a development due largely to war-time necessity.

"Prior to the war, this country's requirements of potash amounted to 240,000 short tons of pure potassium dioxide, representing between 900,000 and 1,000,000 tons of crude and refined salts. Domestic production reached its peak in 1918 when 52,135 tons of pure potassium dioxide were produced, representing 192,587 tons of crude and refined salts. Of this tonnage about 25,000 tons of pure potassium dioxide were produced from Nebraska salts and this source of supply is still the predominant one in this country. Of the remainder, somewhat over 14,000 tons were produced from other brines, mainly from Searles Lake in California.

"During 1918, many new plants were constructed and the annual capacity of all plants at the end of 1919 was estimated at 100,000 tons of pure potassium dioxide. However, this production was based on the high prices secured during the war. Early in 1919, practically all potash plants in the

country were shut down. Most of the larger plants resumed operation during the fall of 1919, but many have not started up and others will probably not be able to produce potash if the price drops below the present price of \$2.25 to \$2.50 per unit, so that the output will probably not be over 60,000 tons in 1920."

Other lakes in Lynn County which show by private tests to have large potash content are the Three Lakes, on the ranch formerly owned by S. T. Singleton.

Activity in Quicksilver Industry in Texas.

Terlingua, Tex., June 8—[Special.]—Of the total of 6497 flasks of quicksilver which were produced in the United States last year 2725 flasks came from the cinnabar mines in the Terlingua district. There has been quite a revival of the industry here during the past year and preparations are being made for the opening of several more promising properties. Extensive prospecting which has been made recently has established the fact that there are outcroppings of rich cinnabar ore all through a territory running thirty miles east and west from Terlingua and having a width of about twenty miles. It is asserted that the quicksilver resources of the district are the largest known in the world.

One of the chief reasons for unusual activity in opening up new mines is that the tariff of \$18.75 which Congress recently placed upon quicksilver is expected to cause a corresponding raise in the price. At present the quicksilver sells for \$58 a flask of 75 pounds in San Francisco.

The largest producer of quicksilver in the Terlingua district is that of the Chisos Mining Company, which has been producing regularly at the rate of about \$30,000 a month for many years. It has a record of having produced a total of more than \$2,000,000 worth of quicksilver. The workings of this mine are down to a depth of 500 feet and it is stated that the ore grows richer as the depth increases.

Formerly one of the principal drawbacks to the industry was the scarcity of fuel for the furnaces. The mines are ninety to one hundred miles from the nearest railroad point and in a region that is bare of trees and practically all other kinds of vegetation. The fuel problem was solved unexpectedly, however, by the discovery of coal of fine quality near the mines. It is now being used in most of the furnaces.

Outcroppings of cinnabar have also been found in Mexico, just across the Rio Grande from Terlingua but as yet no steps have been taken to develop the properties on that side of the river.

Boll Weevil Seems to Have Been Almost Eliminated from Lower Rio Grande Valley—Victory Through Precautionary Measures.

Harlingen, Tex., June 9—[Special.]—One of the surprising features of the cotton crop in the lower Rio Grande valley this season is the almost entire absence of boll weevils. It was in the valley that the pest made its first appearance in the United States after crossing the river from Mexico about twenty years ago. It is explained that the weevil has been practically eradicated by the exercise of precautionary measures on the part of farmers. Although the crop is later than usual it is uniform and promises unusually large production. The cotton acreage in the valley this year is approximately three times as great as last year, and a conservative estimate places the total production at 150,000 bales, with prospects of running close of 200,000. Eight new gins have been erected in the valley since the 1922 crop was ginned, and there will be ample gin facilities to handle the crop. One of the most perplexing problems with which valley growers will have to contend will be the securing of sufficient labor to harvest the crop, and an effort is now being made to secure an organization to assist the various communities in securing the necessary labor supply.

Scotch and English Artisans Thronging British Ports in Exodus to America.

BETTER CLASS OF WORKERS ARE SEEKING TO COME HERE WITH THEIR FAMILIES TO MAKE THEIR HOMES—LARGE NUMBER BARRED WHEN QUOTA IS REACHED—BRITISH DEPRESSION AND REPORTS OF AMERICA'S PROSPERITY THE LURE THAT ATTRACTS.

[From Our English Correspondent.]

About three weeks ago the leading British press commented strongly on the unfortunate plight of a number of Scottish artisans and crofters who had made arrangements to emigrate to the United States, but who suffered a trying and expensive disappointment. On arriving at their port of embarkation they were refused visas by the American consul, on the ground that the British quota for the year was exhausted.

Since the American consul cannot be expected to know who intends to emigrate until the applicant applies for a visa, and since it is the place of the British Government to protect their own subjects, no blame was attached to the American authorities. None the less, considerable indignation was expressed that the intending emigrants, many of whom had sold house and home and every stick they possessed, should have been stranded. There is now no chance for them to emigrate to America for at least several months, and in the meantime they will have to endure the sickness of hope deferred.

But the incident awakened another feeling, quite different from sympathy. It brought home to British employers the fact that the United Kingdom is suffering a loss which is growing greater, and which will become serious if not checked or counteracted. The Scottish emigrants above referred to were the best of their kind—they were men and women who were not only self-supporting, but who had saved enough money to maintain themselves until they could establish new homes abroad. It is the better class of British artisans that are now emigrating from their country, leaving behind those of poorer quality. These latter, of course, stick like limpets so long as they can draw the dole which is having so disastrous an effect on the morale of the British worker. It is easy to see what the effect will be if this kind of natural selection goes on long enough.

It was at the beginning of the present year that this stream of emigration began to flow more strongly towards the United States than it had done previously for a considerable period. The emigration increased with such rapidity that by May 7 the quota of British born persons permitted to enter the United States in the course of twelve months (77,342) had been exhausted. This increasing tendency to emigrate to America manifested itself particularly in Scotland, and the industrial classes were chiefly concerned. In spite of the fact that "emigration within the Empire" has become a slogan of British politicians of all classes, and in spite of the schemes for financially and otherwise assisting emigrants desiring to go to Australia and other Dominions, the lure of America is growing stronger, and that without any organized effort to stimulate it.

The chief influence in directing the tide of emigration towards America is, of course, the long continued unemployment in Great Britain and the widespread belief in the prosperity of the United States. The British press is constantly, if unconsciously, fostering this influence in two ways at the same time, voicing complaints about the high cost of living and the staggering weight of taxation at home, and publishing figures illustrating the industrial activity and consequent full employment and high wages in the States. To quote a single

example, a London daily recently published a long article on the "Trade Boom in America," containing the following statements:

"There are continued reports of increased output, and now and again we read the statement that some industry or other is approaching, or has reached, the peak of production. * * * The American Railway Association has just announced a budget for 1923 allowing for an expenditure of more than one billion dollars for equipment, the largest program ever proposed for the purpose. Motor cars and trucks numbering 2,577,000, valued at wholesale at more than \$1,600,000,000, were produced last year, and it is estimated that at the present rate of production the output for 1923 will be not less than 3,000,000 cars. The former highest point of automotive production was in 1920, when the number of cars and trucks manufactured in America was 2,205,197. It was only in 1916 that the number of cars and trucks manufactured first reached the one million mark. * * * The money value of building and construction in 1922 was the largest on record in the United States, and building contracts for the first quarter of this year are greater than for the first quarter of 1922. * * * Wage schedules in many industries are being revised upwards. The farm labor situation is now favorable to the employee, and is the reverse of what it was a year ago. * * * There is much agitation over the immigration question, in view of the shortage of labor. It has been estimated that there are 500,000 more jobs than there are men to fill them."

And only a few days previously the same paper published an equally long article under the heading, "The Hungry Peasantry—Wages which Give a Bare Existence." The article quotes a specific instance, amongst others, of a British laborer whose family, after payment of rent, fuel and health insurance, had a margin of less than 5d. per head a day for all living expenses. In view of these statements in the public press, and in view of the necessity for the continuance of the demoralizing dole, it is not a matter for wonder that the more ambitious of the British workers are looking toward the most prosperous land they know. They have taken to heart the business man's aphorism, "If you want to make money, you must go where money is."

It is a fact that in Great Britain the aftermath of the war is exacting a heavier toll than the war itself did, and there seems no near prospect of relief from it. If any organized effort were made by the various American states to promote in Great Britain a knowledge of their resources and advantages, it is certain that they could draw toward themselves a swelling and steady stream of the most intelligent, most capable, most law-abiding and best emigrants in the world. This applies particularly to the Southern States, where cheap land, varied resources, a genial climate, and strong natural social affinities would exert an irresistible appeal if they were but fully known.

The American Consul General at London in reply to an enquiry writes me as follows:

"I am in receipt of your letter of the 16th instant in regard to emigration from this country to the United States. It is a fact that towards the beginning of this year a substantial increase in emigration to the United States manifested itself especially in Scotland, and apparently the in-

dustrial classes were chiefly concerned. This emigration increased with such rapidity that about May 7, the quota of British born persons permitted to enter the United States under the immigration laws in the course of twelve months had been exhausted. This quota is fixed at 77,342. At the time when American consular officers ceased to grant the visas, all immigration being suspended, it was manifest that the movement would have continued probably with increased volume. Until July 1 the only British born persons permitted to enter the United States are those who are proceeding to that destination on temporary business or personal missions—artists, ministers of the gospel, lecturers, professors, members of the learned professions and the like.

"It is supposed the movement of members of the industrial classes is due in the first place to unemployment in this country and also to attractive openings in the United States. Thus far, I am not aware of any organized efforts to stimulate emigration of this character, applicants for visas usually being able to account for their departure by reason of having read in the press of business activity in the United States, or having received communications from members of their family already in the United States."

I am enclosing some further information which I have just received. The statistics are interesting, though they are not so exact as the period you were inquiring about.

EMIGRATION FOR THE UNITED KINGDOM
(Male and Female)

(Furnished by the Federation of British Industries, May 25, 1923)

	1913	1916	1917	1918	1919	1920	1921	1922
	% of Total	% of Total	% of Total	% of Total	% of Total	% of Total	% of Total	% of Total
Emigrants to Brit. N. America	13,544	2,486	1,709	79,109	118,837	67,907	45,818	
Australia	5,707	1,714	2,591	17,000	43,827	27,751	39,099	
New Zealand	3,528	1,072	1,324	4,756	15,157	11,513	12,259	
British S. Africa	2,561	599	1,658	7,771	12,188	9,830	8,772	
India (including Ceylon)	2,696	1,084	983	6,733	8,594	8,873	7,054	
Other Parts of British Empire							5,408	
Total British Empire	285,046	73	28,036	53	6,955	69	8,265	78
United States	104,248	27	22,782	43	2,379	24	1,714	16
Other Foreign Countries			2,108	4	670	7	642	6
Total British Emigrants ...	389,394		52,926		10,004		10,621	
							146,935	
							284,821	
							199,477	
							174,096	

Will Develop 10,000 Horse Power at Cost of \$1,000,000—Blue Ridge Power Company's Second Development on Green River.

Spartanburg, S. C., June 7—[Special.]—The second water-power development of the Blue Ridge Power Co. of Spartanburg is now under way on Green River in Polk County, North Carolina. The company expects to develop 10,000 horsepower, the project to involve an expenditure of \$1,000,000. Work of excavating for the dam is in progress at Turner Shoals where a lake of 400 acres will be formed. The plant will be slightly larger than the Lake Summit development at Tuxedo, several miles above on the same stream.

The new development, it is said, will double the present power output of the company and three power manufacturing units will be installed as compared with two at Tuxedo. The dam will be 87 feet high of the multiple arch type and it is expected that work will be completed and the plant ready to deliver power early in 1924.

Turner Shoals is about 17 miles from both Tryon and Rutherfordton. Transmission lines will be run to Campobello in Spartanburg County, a distance of 16 miles, where a sub-station will be located for distributing current to Chesnee and Spartanburg and connecting with the plants at Tuxedo and Turner Shoals. Columbus, the county seat of Polk County, will be supplied with light from the new development. Preparation for the concrete work on the dam is being made under the supervision of Jack Ward who had charge of the construction of the plant at Tuxedo.

For the purpose of financing the Turner Shoals project, the company has recently obtained authority to increase its capital stock from \$700,000 to \$2,100,000. Its officers include W. S. Montgomery, president, and John A. Law, treasurer.

To Consolidate Western Maryland Utilities.

Authority has been secured by the Williamsport Power Co. of Williamsport, Md., whose name is to be changed to the Potomac Edison Co., with main offices in Hagerstown, Md., to issue \$3,900,000 of bonds, \$514,000 of preferred stock and 25,000 shares of common stock of no par value. The issuance of these securities, as stated last week in the MANUFACTURERS RECORD, is for the purpose of consolidating and

operating the street and interurban railway service of the Hagerstown & Frederick Electric Railway Co., the street railway, light and power service of the Cumberland Electric Railway, and to take over and complete a generating plant at Williamsport.

M. F. Riley of Hagerstown is the president of the Potomac Edison Co. and Emory L. Coblenz of Frederick, Md., is the chairman of the board.

\$500,000 Contract Let for Heating and Plumbing in the \$10,000,000 Atlanta-Biltmore Hotel—Part of Installation to be Started at Once.

Atlanta, Ga.—Contract has been awarded to the Farrell Heating & Plumbing Co. of this city at approximately \$500,000, for the heating and plumbing in the new Atlanta-Biltmore hotel now under construction here for the Atlanta-Biltmore Corp., in which John McE. Bourman of New York and William Candler of Atlanta are interested. The 10-story annex to the hotel is expected to be completed this fall and the installation of the heating and plumbing in this part of the building will be started at once.

Construction of the hotel includes a 12-story building, of monolithic concrete, with 560 rooms and baths, of Georgian architecture and involving an expenditure of \$6,000,000. Other improvements which are planned for a later date will cost about \$4,000,000.

Schultze & Weaver are the architects and Starrett Bros. are the contractors, both firms of New York.

\$1,500,000 in Virginia School Buildings This Year.

In a letter to the MANUFACTURERS RECORD, Raymond V. Long, supervisor of school building construction, State Board of Education, Richmond, Va., states that school buildings constructed this year in the State after plans of his department, total approximately \$1,500,000. There are about fifty projects ranging in cost from \$10,000 to \$70,000 and averaging about \$30,000 each. In addition there will be a number of small one and two-room schools, additions to school buildings, septic tanks, etc., constructed from standard department plans which are changed to meet varying local conditions.

The Development of America's Future Power Supply.*

THE LIMITLESS POSSIBILITIES IN ELECTRIC LIGHTING AND POWER DEVELOPMENT.

By General GUY E. TRIPP, Chairman of the Board of Directors, Westinghouse Electric & Manufacturing Co.

In striking contrast to all other public utilities, the electric light and power industry, I am convinced, is about to enter into a new era of development. The railway, telephone, telegraph, and gas industries have become settled enterprises. They will continue to grow as the country grows and will from time to time improve their methods; but in all probability none of them will be called upon to furnish a radically new kind of service to meet the increasing requirements of our highly organized social life.

But with electric power, the case is quite different. Power is the basis of civilization. Without it, man could not have emerged from barbarism. Nor can we make any marked progress except when notable improvements are made in our power supply. Thus the power of slaves gave us one type of civilization; draft animals, a second; steam engines, a third; and so we have advanced, step by step, until we are today living in an age characterized by electric power supplied by individual central station companies.

We shall not stop here, however. Already, we are laying the foundations for a new and more comprehensive method of generating and distributing power. An increasing number of our water powers are being developed and new steam plants of the largest size constructed. Because of certain economic advantages, with which all engineers are familiar, the tendency is to connect groups of these plants together, forming large composite systems. By its very nature, a composite system can produce power at a lower cost, and therefore can sell it at lower rates, than an isolated local company. Hence when its lines reach the territory of a local company, the latter will be unable to compete and must eventually become a part of the larger system. The growth of these composite systems will, therefore, be irresistible, until in time a few "super-power" systems, drawing upon all economical sources of power within the areas they cover, will supply electric energy to the greater part of the North American continent. Even the splendid companies serving the metropolitan areas will in all likelihood join the super-power systems, because they will then be able to turn their surplus power into the common reservoir for general use and can draw from the same reservoir such additional power as they may require in emergencies.

This abundant and widely distributed supply of electricity, which will thus be furnished by the super-power systems, will confer innumerable benefits upon the people of the United States and Canada. It will increase the productivity of farms; improve transportation; reduce the cost of manufactured products; promote mining and metallurgical operations; increase the effectiveness of human labor; conserve our diminishing fuel resources; and, by providing ample facilities for industry and for comfortable living in the open country, it will draw the people out of the congested cities. In a word, it will so enhance our welfare that it will usher in a new era in the history of civilization.

But because super-power systems will become vital to our national prosperity and must, of necessity, be monopolies, they will be shining marks for the advocates of government ownership. The efforts of these earnest theorists will be multiplied exceedingly, and we shall but deceive ourselves if we believe that their doctrine will be unheeded by the public and the politicians.

It so happens, however, that regardless of the merits or demerits of the theory of the public ownership of the utilities

as an abstract proposition, the government ownership of a super-power system is entirely impracticable. There are three possible kinds of government ownership—municipal, state, and national. Obviously, no municipality can properly own any part of a power system that extends and carries on trade far beyond its boundaries, and is interstate, and even international, in character. Nor, for exactly the same reason, can a state. Super-power systems must ignore political boundaries; and any attempts to keep their lines within arbitrarily chosen limits will merely result in destroying them as super-power systems and depriving the public of the chief economic advantages that they confer.

National ownership, on the other hand, may at first sight seem entirely feasible, but analysis shows that great difficulties exist here also. In the first place, the authority of the federal government does not extend beyond national lands, boundary waters, and navigable rivers. It could not, under present laws, control the power developed by non-navigable streams, to say nothing of the necessary steam plants. Any attempt on the part of the federal government to extend its control would be promptly resisted by the states with the support of public opinion, which sees the danger to our Republic in the growing tendency of the federal authorities to interfere in local affairs.

But, assuming that suitable legislation were to eliminate these political obstacles, many more of a different nature would still be left. No one seems anxious for the government to reassume control of the railroads nor continue that of the merchant marine. Yet, in comparison with the management of a super-power system, the management of these industries is simplicity itself. These industries are fully matured; they offer only one service to a few classes of customers; and all of their methods have been carefully standardized. A super-power system, on the other hand, will serve hundreds of classes of customers in innumerable ways. It will not only receive power from hydraulic and steam plants, but from every other possible source, including that derived from the by-products of manufacturing operations, such as the gases from blast furnaces and coke ovens, the residues left after the extraction of gasoline from coal, and, especially, many future possibilities about which we now know little or nothing. Then, too, the electric power industry is far from maturity. We have every reason to believe it will triple or even quadruple its present growth within fifteen years. Every day sees new uses for electricity, and no one can foresee what we shall be doing with this marvelous force ten years from now. Is the deadening hand of the government the proper one to guide so vigorous and promising an infant on its way?

But assume again that this difficulty was overcome, and that the Government was able, in some extraordinary manner, to operate such a complex business with acceptable efficiency. Even then there would be no super-power system worth the name. And for this reason: A super-power system, to serve the public in the most effective and economical manner, must supply power for all purposes and particularly to those users who consume it in immense quantities. But no great industry would dare risk its future by depending on a government-owned system for its power, because the contracts of any government-owned agency can be nullified by political action.

Therefore, if the nation is to have super-power systems, they must be built by private capital and operated by private companies. Government ownership in any form would

* An address before the Convention of the National Electric Light Association.

be fatal to their development and disastrous to the best interests of the public. Consequently, it is to be hoped that there will be no further movement in that direction. Each new municipal plant that goes into operation and each new obstructive state law, like that of Maine prohibiting the export of water power, presents one more obstacle to the completion of the general plan. It is most pleasing to note the broad-minded water-power policy of Governor Pinchot, of Pennsylvania, and it is encouraging to remember that the New York State legislature did not adopt a policy of hoarding the state's water power. But, nevertheless, there is altogether too much sentiment in favor of the government ownership of electric light and power utilities, and especially of water powers; and the growth of this sentiment can only be stopped by making the people clearly understand the fundamental fallacy involved in it, and by proving, through service, that private ownership and operation is, from the standpoint of the public, the better way.

But because through force of circumstances the electric power industry is called upon to provide America's future power supply, it would be an unpardonable error if the industry viewed this opportunity in the light of a special privilege. Rather, it is a great and pressing obligation—on the one hand to prevent the people from committing themselves to a calamitous policy, and on the other, to provide the means that will bring about the maximum of prosperity.

To carry out this obligation, expeditiously and efficiently, cooperation is required in greater measure than this, or any other industry, has ever seen; cooperation within the industry and cooperation with the public. As the existing companies become transformed from isolated enterprises, serving local needs, into great unified systems, serving the nation, ample opportunities for differences of opinion and conflicts of interest will arise. Some means must be found within the industry for formulating general policies and for promptly adjudicating dissensions; for unless this is done, progress will be hampered, and the impression will go abroad that the government alone can do the necessary work.

Steps must also be taken to establish the fundamental principles for the regulation of super-power systems. Though these systems are unsuited to public ownership and operation, they must nevertheless be subject to public control. However, the less restriction there is to rightly directed private initiative, the better. It is, therefore, highly desirable to determine as soon as possible the irreducible minimum of regulation that will afford complete protection to the public and at the same time promote electric power development to the greatest possible extent.

The electric light and power industry is undoubtedly about to enter a new era of development, which will be characterized not only by great technical achievements but also by the establishment of a new order of relationships both within the industry and with the public. This development can take place under private initiative with government regulation but not under government ownership. If the people insist on government ownership they will deprive themselves of the full benefits of the resources which nature has given us. And surely, private ownership under public control is not only the better, but also the safer, method. If the people cannot trust their representatives to regulate the electric power industry, how can they trust them to own and operate it?

Oil Struck on University of Texas Lands.

Austin, Tex., June 8—[Special.]—Discovery of oil land owned by the University of Texas may add enormously to the permanent fund of that institution. It was while making exploration for potash that the Texas Oil and Land Development Company a few days ago struck oil in a well it was drilling near Big Lake in Reagan County. The company

leased fifty thousand acres of land owned by the University in that county some time ago for the purpose of developing the potash deposits which were said to exist there. It is stated that the oil production of the new well is less than one hundred barrels a day. It is expected, however, that the production will be increased when the well is deepened. The University owns more than two million acres of land, all of it being situated in the extreme western part of the State.

Ribbon Cane Syrup Standardization as Undertaken in Texas.

By CHAS. E. BAUGHMAN, Commissioner of Markets and Warehouses, State of Texas.

The greatest hindrance to agriculture in the past has been the lack of standardization with reference to grades and packs, this being especially true as relates to our perishable and semi-perishables.

The manufacturer and the packer attain certain stages of perfection in the preparation of their products and through a system of trade marks are enabled to advertise, and the quality of the goods creates demands for that particular article and the trade mark serves as an avenue for repeat orders.

A very large area of east, northeast and southeast Texas is peculiarly adapted to the growing of ribbon cane from which is manufactured one of the very best grades of syrup, but the industry has never attained to large proportions due to the lack of uniformity in density, color, taste, pack and grade and it was this fact that prompted the Markets and Warehouse Department to undertake to bring about a system of standardization.

The plan proposed by the department called for co-operation among the growers.

First—To bring about the organization in each of the communities, co-operative societies, for the purpose of pooling the interests of all the growers in the preparation for market and for marketing of the product.

This to be followed by the building of central treating plants, the several treating plants to be located with respect to easy accessibility to quantity production, with a kind of general or supervising head.

Second—Through the general or supervising head would come the equipment for the several treating plants, the crating material, the containers and the labels, all uniform.

Third—The individual growers would mill their cane and cook the juices only sufficiently to prevent deterioration, then ship this juice to the treating plants where it would be tested, graded, treated and packed ready for the market.

Except that some of the larger growers and producers adapted the standardization idea, only one of these plants was erected this season, that being at Lufkin.

The success of such an undertaking must not be considered from the viewpoint of dollars and cents for the first season, but from the viewpoint of the enhanced value of the product as a table commodity, having back of it a system through which the consumer may reorder a syrup peculiarly pleasing in taste, color and density, and a syrup that will neither crystallize or ferment with age.

With such a system, the question of profitable returns will naturally care for itself as the system is enlarged and as its directors are enabled to educate the consuming public of the real value of the commodity.

When this system is put into operation on an extended and enlarged scale, an order for east Texas ribbon cane syrup placed and filled May 1, will be just the same kind of syrup shipped December 1.

It is not a system of compounding, the finished product is only the pure syrup from the cane without the addition of anything foreign.

The Fallacy of the Proposed Super-System Plan of Enforced Railroad Consolidation.

UNFAIR TO STRONG ROADS, DISTURBING TO BUSINESS OVER LONG PERIODS, HAMPERING TO INDIVIDUAL INITIATIVE, AND ENTIRELY UNSUITED TO THE GREAT TRANSPORTATION SYSTEM OF THE COUNTRY.

By BRONSON BATCHELOR, President, Institute of American Business, New York.

Despite the rumblings from the Middle West, where Senator La Follette and his followers are preparing the lightning with which they propose to descend in December on the Transportation Act, President Harding and his advisers continue to press their plans for "enforced" consolidations of the railroads of the country into a few super-systems. The Interstate Commerce Commission on May 15 also began hearings on the so-called Ripley plan for merging the carriers into regional systems. Hearings are now in progress on the Eastern groupings; those for Southern carriers are scheduled to begin in about two months.

No such momentous change in the policy of a nation, as is involved in the program of consolidations, has ever come so near realization with so little public discussion and knowledge of its ultimate economic effects.

The Federal Reserve Law was passed after a decade of debate, discussion, and investigation, and after Congressional committees—notably the Aldrich Commission—had made long and exhaustive inquiries into the workings of currency systems throughout the world. In consequence the transition to the new banking system was accomplished with a minimum disturbance of business and a thorough public understanding of the elements involved.

The changes to be wrought in the nation's transportation machinery through any program of enforced consolidations are no less far-reaching than those which attended the inauguration of the Reserve banks. They affect the channels of commerce, and when the channels of commerce are changed, the prosperity of cities and whole sections may rise or fall or dry up altogether. With the South in the full tide of its development, and fast overtaking other sections of the country, certainly any program of such fundamental character as is here involved deserves the closest scrutiny.

Superficially, the program of consolidations, of course, has much to commend it. Under it considerable railroad economies can be effected, no doubt; the traffic requirements of various traffic territories can be effectively correlated and more efficiently served; the interchange of cars and equipment will be considerably reduced, and thus one of the greatest weaknesses of the present system partially overcome.

There are other and more fundamental factors, however, than those of mere economies to be considered. Indeed, from the standpoint of effecting savings, Mr. S. Davies Warfield, President of the Seaboard Air Line, has already pointed out through the National Association of Owners of Railroad Securities how many millions can be saved yearly by the pooling of freight equipment and the joint use of terminal facilities without any of the hazards or uncertainties involved in the consolidation program.

Consolidations, from the economic standpoint, are beneficial only where each corporation or group has reached the maximum development possible to it separately, and where, by joining with others, either new fields of development can be opened up, or major economies effected. When these factors arise, mergers take place normally and naturally without the necessity of any political marriage of carriers such as is now proposed.

What is important is that in the plans now being formulated

by the Interstate Commerce Commission and the Administration, the door be not closed to future revisions, and that these natural economic groupings be made *permissive*.

Nor can it be argued that railroad development in the United States has reached the limits possible to existing systems.

While it is true that this development has been greatly retarded and the credit structure of the carriers greatly weakened by excessive regulation during the past two decades, yet railroad expansion and progress in that period has never stopped. Railroad mileage, for example, increased from 194,321 miles in 1900 to 253,466 in 1920—a growth of 76 per cent—while in the same period, volume of traffic increased in ton miles from 141 billion to 413 billion, a gain of practically 300 per cent, evidence of constantly improving equipment and increased railroad efficiency.

Those advocating consolidations draw a parallel between conditions in Great Britain, where the various railroads have been consolidated into four national systems, and the United States. No real comparison is possible; the transportation problems are utterly different. Great Britain has a population density of 701 persons per mile, compared with 35 per mile in the United States. England's railroad problem is one of short hauls, that of the United States carriage over great distances. British railways must serve primarily a vast industrial establishment, where traffic demands are fairly regular; there are no such tremendous seasonal crop movements as each year tax the capacity of American roads.

Another serious objection to the consolidation plan, for which a satisfactory answer has not yet been worked out, is the question of property rights involved. In the creation of the super-systems as outlined by Senator Cummins it is proposed to exchange the securities of the merged carriers for those of the new corporation. To the strong roads, forming the backbone of the new systems, various weaker lines are to be added, often with little or no economic reason for their inclusion except that they must be pigeon-holed somewhere.

But no consolidation plans, political in character, or indeed, no laws that Congress can enact, can force me, as a security holder of one of these strong roads, to surrender a property right for a price that I do not deem equitable, or to give an equity of proven and certain value for one whose future is wholly problematical. Not only do the courts practically unanimously protect such rights, but the experience of the New York Central with the stockholders of the Lake Shore when it was desired to merge the two roads, demonstrates how jealously they are guarded.

Long years of litigation would thus be almost inescapable before such consolidations could begin to carry out the purpose for which they were formed. In the meantime, what? The country would face a paralysis of expansion or improvements on any railroad involved in such mergers, with a breakdown in transportation as a consequence which would almost surely result in government operation, as a means of relief, before the consolidations could be made to function. Certainly not a pleasant prospect to be faced.

So much for the general considerations regarding consolida-

tions. The subject has an even deeper and more direct relationship to the South.

No page in American history is more splendid than that recording the economic regeneration of the South during the past two decades. The Blue Book of Southern Progress unrolls the picture; the value of Southern farm crops, for example, has grown from \$1,104,531,000 in 1899 to \$6,095,788,000 in 1919, while in 1922, with farms embracing 35 per cent of the total acreage of the country, the South produced 42 per cent of the aggregate crop value.

The value of the cotton crop has increased, through the diversification of Southern farming, from \$532,720,000 in 1910, to \$1,220,739,000 in 1920, but it is in manufacturing that the South has established new records for the nation. The value of Southern manufactured products increased from \$1,564,183,490 in 1899, to \$9,805,041,000 in 1919, with a growth in capital investment in manufacturing for the same period from \$1,196,302,086 to \$6,883,171,000.

These figures are cited because they have a definite relationship to the underlying economic principles in a program of consolidations. The progress of the South since 1900 has been due not only to its marvelous resources but to the fact that in these states individual initiative and incentive have had their freest play. While Northern and Western states have run regulation mad, curtailing and harassing business—whether it be farming, manufacturing, or merchandising—with all sorts of onerous restrictions, the South has gone ahead building barns, dwellings, and warehouses, erecting factories, and projecting huge transmission lines from hydroelectric plants to turn the spindles in mills hundreds of miles distant.

Raw materials, power, transportation, and markets have been brought together to make the South the equal, if not the superior, in manufacturing advantages, of any section of the United States.

In this program of expansion the Southern railroads have had an intimate and leading part. Through their land and development bureaus they have aided in bringing increased acreage under cultivation. They have helped to bring about crop diversification. They have joined with Chambers of Commerce, and with the great utility companies in locating new manufacturing enterprises in the South.

The development of Southern ports both during and since the war would have been impossible without the active assistance and co-operation of these Southern railways. Indeed it was only the rail differentials established in favor of these ports that checked the steadily increasing concentration of commerce in the North Atlantic ports and built up new volumes of trade for Norfolk, Savannah, Jacksonville, and New Orleans and other ports. Not only were they in a position to handle traffic more economically, but the rail haul from them to the markets of the Central and Middle West was much shorter. The free play of competitive forces between the Atlantic Coast Line, the Seaboard, the Southern, the Louisville & Nashville, effected the creation of new channels for commerce within a few years. Had these roads at that time been consolidated into rigid, politically-created systems, designed to preserve an equilibrium as against each other, would such a development have been possible?

Senator Cummins' program, whatever its other advantages may be, leaves little leeway for the initiative and individual incentive which the South must continue to have during the next two decades, at least, if the momentum of its present progress is to be maintained.

Under the plan of consolidations now being put forward by the Administration, railroad groupings are to be "balanced;" that is, while the theory of competition between the systems is preserved, advantages as to mileage, territory served, entrance into cities, etc., are to be equalized. In the equilibrium thus established, initiative is confined within very

narrow limits indeed. The Interstate Commerce Commission having approved the plan for national consolidations, they are not subject to change; nothing can be added and nothing can be taken away. Once accepted, they constitute in fact a veritable transportation straight-jacket imposed upon the sections they serve.

Whether or not the consolidations as planned are in themselves desirable is open to doubt, if criticism voiced by railroad executives at the present Interstate Commerce Commission hearings, is to carry weight. The Commission proposes, in its tentative plan, to merge the Illinois Central and the Seaboard as one of the Southern groups. Yet, both President Markham of the Central, and Vice-President Capps of the Seaboard, testified that the roads were competitors, that there was little interchange of traffic between them, and that the interests of one were largely devoted to the Mississippi Valley, and the other to the middle Southern states.

Another phase of consolidations of great importance to the South lies in the fact that, in order to effect the projected economies, there must be a relocation of shops, administrative offices, as well as many railroad, industries, etc., on the various systems. For example, at present the Southern maintains at Atlanta a resident vice-president, large administrative offices, shops, etc. The Seaboard does the same, as do other railroads.

Atlanta has grown and prospered because of its position as a railroad hub of the South, not a mere intersection of lines, but a terminal with all the wholesale, manufacturing and distributing businesses which naturally spring up around a terminal. Under the consolidation plan this function of Atlanta, of course, would be greatly reduced. There would no longer be reason for administrative offices, vice-presidents, etc. Its business as a terminal would disappear, for instead of a terminal it would be merely a city located on one or more regional systems.

It can hardly be imagined that Atlanta, Richmond, Norfolk, Wilmington, Charleston, Savannah, Jacksonville, Tampa, or any other Southern city will willingly surrender without a struggle any of these elements which enter into its business life. If the government has found it virtually impossible to abandon some of its obsolete navy yards because of political pressure, how much more difficult will it become to re-arrange terminals, shops, offices, etc., for fifteen super-systems touching intimately the industries of every state?

These are factors seldom brought out in discussions of the consolidations plan, yet they are basic. It may be that those who advocate this solution believe it to be the only plan which will maintain private ownership and operation of the carriers. If so, it is a desperate remedy, which the patient, in the judgment of many competent observers, is not likely to survive.

A Mexican Copper Company Doing Large Business.

Santa Rosalia, Mexico.—With no railroad nearer than three hundred miles and with water transportation as its only shipping outlet the Boleo Copper Company, which is owned by the French Rothschilds, is doing the largest business in its history. The company has just finished making extensive improvements to its properties here, including the construction of reverberatory furnaces and a refining plant. All of the copper produced by the company is now refined at this plant and the product is shipped to Europe on five steamships owned by the company. They make regular sailings from the port of Santa Rosalia, lower California, and French ports. The company has recently greatly enlarged its operations by opening a new copper mine in the San Antonio-Triunfo district. Santa Rosalia is modern in its improvements and public service equipments. The town is practically owned by the Boleo Copper Company.

Free Training Schools Established in San Antonio for Plasterers and Other Building Trades.

OPEN SHOP ASSOCIATION BACK OF MOVEMENT FOR INCREASING NUMBER OF APPRENTICES
—APPLICANTS CAREFULLY SELECTED—SPLENDID DEGREE OF EFFICIENCY MANIFESTED
UNDER INTENSIVE TRAINING.

By SIDNEY E. CORNELIUS, Manager Open Shop Association.

San Antonio, Tex., June 5.

In this city, in a building over which flies the American flag, fourteen husky, ambitious boys are taking advantage of the opportunity of becoming a greater asset to themselves and to the community and consequently better citizens of San Antonio.

The Open Shop Association through its School of Plastering which was opened on April 25 is making it possible for these young men to learn a trade that will enable them to earn a comfortable living and at the same time assist San Antonio in overcoming an alarming shortage of skilled mechanics.

The plastering school is the first of a series of training schools to be established by the Open Shop Association for the building trades. Although not the only one of its kind by any means in the United States, there being schools in San Francisco, Detroit, Buffalo, Milwaukee and other cities, it is a new venture for San Antonio and marks an epoch here in the struggle for sound industrial relations.

The Open Shop Association of San Antonio gives much of the credit for the inspiration and the practical methods employed in the training of the mechanics to the Industrial Association of San Francisco, which has already established seven schools for different trades.

The interior of the building at 1033 North Laredo, which has been leased for the school purpose, has been reconstructed so as to present the equivalent of a seven-room house, with hallways and exterior. The rooms have been so constructed as to provide every angle, opening, recess and type of architecture that might be encountered in plastering work in and around San Antonio. Walls, ceilings and hallways have been lathed with common wood lath with usual spacing. In three of the rooms ceilings are but six feet, four inches from the floor; these are the primary rooms and simulate the condition of being on a scaffold. The other rooms are of normal height with electrical outlets in the ceiling and some with beam and pilaster construction, and in which scaffolds are used. A wall of brick with sections of cement is now being constructed to provide for practice in exterior work. Sections of metal lath walls are used to familiarize the men with this usual type of construction.

In enrolling the students for the school, great care was exercised in selecting from the applicants who answered the newspaper advertisements, men whom it was deemed were particularly adapted for this trade in every way. Their ages range from eighteen to thirty years. Physical condition and the general attitude of each man was considered and in addition the applicants were given the Army Beta Psychological Test, in order to eliminate from consideration men of inferior intelligence. As a result the class consists of capable, ambitious and enthusiastic students. The next class is to be enrolled early in June and many of the applicants now on the waiting list will be admitted. It was endeavored to provide the opportunity for instruction at the school particularly for the sons of citizens of San Antonio.

Harry Millar, a retired plastering contractor and formerly expert journeyman, has been employed as instructor. The course of instruction is essentially practical, although no opportunity is overlooked to give the men a theoretical knowl-

edge of the craft as they progress. The first several days are devoted entirely to learning the ingredients of the mortar, its mixture and qualities and to familiarize the men with the correct handling of the tools and movement of the wrists and body in their application. Several days are then spent in learning to pick up mortar from the board with the trowel, place it upon the hauck and to pass it from one man to another until the movements have become, in a measure, automatic and skillful. Instruction in placing the mortar on the walls and ceilings follow. Subsequently the men are taught the use of tools necessary for producing even and level surfaces. After each application and inspection of the primary coats, the mortar is scraped from the walls and ceilings, re-mixed in the mortar boxes and used again. As the work advances the first and second coats are allowed to remain on the walls and harden in some of the rooms in preparation for the application of sand finish or third coats.

So rapid has the progress been that within six to eight weeks contractors will be permitted to employ some of the students as apprentices on jobs where they will not only be able to earn a wage commensurate with their ability, but will have the satisfaction of actually producing for permanent work. Each man will be obliged to pass an examination before leaving the school and the rating given him as to his proficiency and speed will govern the wages he is to receive during his apprenticeship or until such time as he demonstrates, upon examination, increased ability. After a period of several weeks on actual construction work the men will return to the school for further instruction and will be made proficient in all phases of ornamental work and advanced finishing in plaster and cement. Under this plan of intensive training it has been proved by experience in other cities that first-class plasterers, earning the maximum wage for the craft, can be made in less than one-fourth the time that it took under ordinary conditions, when that all too infrequent opportunity was presented.

The tuition at the school is free. The only expense to the men is for tools, which are purchased at cost by the Association and sold to the men at purchase price. Furthermore the only obligation imposed upon the men is that they agree to obey the rules laid down by the instructor with reference to work and attendance and remain at the school throughout the course, or until released by the instructor at such time as he considers them proficient enough to reflect credit upon the school and their instruction. The school is being financed by the Open Shop Association by subscription through that organization. The Trade School Committee is composed of E. A. Holmgreen, A. J. McKenzie, James Aiken, Russell Hill, Marvin Hill, Martin Wright, Walter Graham, Walter Shafer, James DePuy.

The motive actuating the Open Shop Association in the establishment of the school was to afford an opportunity to the American boy and encourage him to learn a skilled trade. Heretofore he has been deprived to a great extent of the privilege of learning a trade of his own choosing, by certain rules of labor organizations restricting apprentices in their various crafts. Statistics show that the average age of a mechanic in the building lines is about forty-five years and that they are dying off at the rate of about four per

cent a year. Census figures show that in 1910 there were 47,676 plasterers in the United States; in 1920 the number had fallen off to 38,249, a decrease of 19.8 per cent. In 1910 there were only 669 plasterer apprentices in the United States and but 398 in 1920, a decrease of 38.6 per cent. Similar decreases are to be found in other skilled building crafts. Unquestionably the restrictive apprenticeship system has been the primary cause of the acute shortage of good mechanics, which exists throughout the country.

The fact that the school is filling a long felt need in so far as many young men of this city are concerned is indicated from the number of applications received and from the fact that some of the boys are making unusual sacrifices in order that they may provide for themselves during the period of instruction when they are obliged to do without monetary compensation for the time expended.

Among those business firms to whom the school is especially indebted for material used in its construction and equipment are: Ed. Steves & Sons, Pittsburgh Plate Glass Company, Chas. F. Parker, James Aiken, W. V. Dielmann, E. W. Firschnuth, Jay DePuy, Alamo Iron Works, Julius Espey, George A. Moody, Steves Sash & Door Company, Melliff-McAllister Lumber Company, West End Lumber Company, Peden Iron & Steel Company, W. A. Wilson, Turner Gravel Company, Turner Roofing & Supply Company, H. A. Schoenfeld, Graham & Collins, A. H. Shafer, J. H. Savage, G. S. McElroy, D'Hanis Brick & Tile Company, General Supply Company, San Antonio Drug Company, Whisenant Drug Store, Piper, Stiles & Gill, Rogers-Hill & Company, San Antonio Portland Cement Company.

The Open Shop Association welcomes and solicits visits to the school by citizens of San Antonio, who are interested in the methods employed and in the progress of the boys.

Georgia Has Abundant Refractory Clays of Highest Quality.

In view of the fact that the best fire clays of Pennsylvania, Maryland, Ohio and Kentucky, within the reach of railroads, are said to be waning rapidly, attention is centered on the abundant high quality kaolin and clay deposits of Georgia. In this connection, an interesting review of the refractory possibilities of some Georgia clays by R. T. Stull, Supervising Chemist, and G. A. Bole, Superintendent, Ceramic Experiment Station, U. S. Bureau of Mines, has been published in the May issue of the Journal of the American Ceramic Society, giving the results of the research work by the United States Bureau of Mines in cooperation with the Central of Georgia Railway Company.

The report in part contains the following:

"Through the middle of Georgia from the Northeast to Southwest runs a belt, known as the coastal plain, 220 miles long and from 25 to 50 miles wide, containing secondary kaolins, bauxitic clays and bauxites in abundant quantities.

"These clays were derived from the decomposition of crystalline rocks of the Piedmont Plateau to the north and were washed down and deposited on the coastal plain where beds were formed from a few feet to over 40 feet in thickness.

"Nature evidently conducted a clay-washing process on an enormous and efficient scale, for many of these clays are snow-white, very fine grained and comparatively free from impurities. All are very refractory.

"The theory has been advanced that bauxites were derived from the alteration of the kaolins. This is indicated by the fact that deposits occur varying in composition all the way from kaolin on the one hand to bauxite on the other.

"Many of the fine white clays are produced for the filler

trade and several of the white burning ones are used for pottery making purposes.

"The kaolins are plastic and mold readily and many of them show a fairly good dry tensile strength. As the alumina content of the clays increases above the kaolinite ratio, their plasticity and slaking tendency decrease and, with rare exceptions, their iron content increases with the alumina. Kaolins and bauxitic clays, which may not be suitable for fillers or pottery, fuse at a very high temperature and, therefore, are valuable for the manufacture of refractories.

"The Central of Georgia Railway Company entered into a cooperative agreement with the Bureau of Mines to investigate the pottery making, filler, and refractory properties of the kaolins, bauxitic clays, and bauxites along the Railway's right of way.

"Thirty samples of from 500 to 2000 pounds each were selected in a manner to represent the different types in the field. Some of these clays were found to be valuable for pottery making purposes, while others were especially suited to the filler trade. They were all refractory. The deformation temperatures of the clays tried out for use in the ceramic field varied from cone 33 as the lowest to cone 39 plus for the highest.

"The kaolins and bauxites of Georgia were essentially surface deposits which have been covered with an overburden that varies from 3 to 40 feet in depth. Several deposits of substantial thickness are covered with comparatively thin overburdens. One deposit in particular is 28 to 40 feet in thickness. It is covered with an overburden that ranges from one foot in thickness along a ravine, up to 14 feet and will average about 8 feet. Such a clay can be mined by stripping, and delivered to the plant at a cost of approximately 20 to 30 cents per ton."

Compare this raw material cost with the cost of expensively mined underground inferior clays now being obtained in the fire brick industry as stated in the article, which cost delivered at the plant varies from one to two dollars per ton and in some cases it amounts to even more.

The article in question gives in detail the results of the laboratory tests and service tests.

In conclusion the article states:

"The Georgia sedimentary kaolins, bauxitic clays, and bauxites tested show deformation values from cone 34 to above cone 39; showed superior load carrying capacity and good resistance to spalling.

"Enough work has been done to demonstrate the fact that these refractory materials can be made into fire brick in a practical way both by the dry press and slush mold-repress processes.

"Furnace tests under actual working conditions have shown that the service rendered by fire brick made from Georgia sedimentary kaolins were at least equal to and in the majority of cases superior to fire clay and silica fire brick.

"Inasmuch as the high-grade accessible fire clays are waning, the average quality of the fire brick decreasing, and the demand for better firebrick increasing, it would appear that the future of the fire brick industry lies in the utilization of the sedimentary kaolins, bauxitic clays, and bauxites of the coastal plain. Vast areas are underlaid with deposits of such substantial thickness that there is enough high-grade material to meet the needs of the refractory industry for years to come."

The State Highway Commission has awarded contract to Joseph Pope of Jefferson City, Mo. for building six miles of concrete road in Henry County at a cost of more than \$200,000. The road is located near the town of Windsor.

\$100,000,000 Expended by New Orleans For Publicly Owned and Controlled Utilities.

CONSPICUOUS EXAMPLE OF BROAD DEVELOPMENT THROUGH MUNICIPAL ENTERPRISE—\$20,000,000 CANAL AND INNER HARBOR NOW ADDED TO PUBLIC BELT RAILROAD, GRAIN ELEVATORS, COTTON WAREHOUSES, WATER WORKS, PUBLIC WHARVES, ETC.—GREAT INDUSTRIAL AND COMMERCIAL GROWTH DEEMED CERTAIN AS RESULT OF ENLARGED TRANSPORTATION AND DISTRIBUTION FACILITIES—A GREAT WORLD PORT, THOROUGHLY ALIVE TO VALUE OF LATIN-AMERICAN TRADE.

By CARROLL E. WILLIAMS.

New Orleans, La., June 8.

With the completion of the \$20,000,000 Inner-Harbor Navigation Canal at this, the second port of the United States in volume and in value of tonnage handled, New Orleans offers, for furthering industrial and commercial development, upwards of \$100,000,000 in public controlled facilities.

New Orleans has always been a publicly-owned port. The French, founders of the city, were believers in communal effort, and set apart the river front for public use. When the United States in 1803 took over the Louisiana Purchase, our Government by treaty guaranteed to the people the free and unobstructed use of the river and river banks for commerce. In 1896 the State, through the Legislature created the Board of Commissioners of the Port of New Orleans and defined the port to include certain areas on the east and west banks of the Mississippi in Orleans, Jefferson and St. Bernard Parishes, and the shores of Lake Pontchartrain, Lake Borgne and the Rigolets—all in Orleans Parish. The City of New Orleans, however, administered the river front until 1901, when the Board formally took charge.

At that time the only wharves were temporary structures. There were no storage sheds or handling equipment of any kind. True, the public owned all the river harbor frontage but it had not created any machinery for the practical operation under public ownership. Thereafter bonds were sold by the new Board, wharves were built and warehouses and other facilities provided. Its vision developed as the work progressed. Today it is composed of five prominent business men, appointed by the Governor, and its members serve without pay as a Board of Directors. It selects a general manager, who need not at the time of his appointment be a resident of the state, and empowers him to operate the port. He selects his staff, and department heads are employed because of executive ability and salaries are paid accordingly.

Seeking to become the most efficiently operated and lowest cost port available to the Mississippi valley, this city has invested all the millions it has been able to command. Public ownership of the river front has made possible the completion of the world's largest cotton warehouse and terminal; one of the most efficient of grain elevators—and one of the largest in the South; a modern coal tippie, together with some seven miles of steel covered receiving and discharging sheds and wharves, as well as the Inner-Harbor Navigation Canal. And in these facilities the users have no capital investment. Bonds issued for this work total \$36,700,000.

While the rapid growth and development of the Port of New Orleans in the last 20 years has been due in large measure to the public ownership of the major part of its port facilities and the control of them, it may be said fairly that this inalienable right or servitude of the public has its limitations. For example, no large industrial plant may establish itself upon the river front, where it could be wholly secure against the possibility of appropriation at any time of its waterfront facilities for public and general use—that is, own any waterfront in the river harbor. Nor may any

definite leases with fixed terms be legally granted on the riparian property under control of the Port Commissioners. Primarily with the object of overcoming these limitations the project for an Inner-Harbor Navigation Canal was formulated. On this canal the Commission may lawfully lease any part of its property for 99 years on favorable terms to transportation companies, warehousemen and others. The completion of this project makes possible the uninterrupted development of the Port under the following four-phase policy, as outlined by Walter Parker, General Manager of the Association of Commerce:

Public ownership of river harbor front, commercial sites and facilities, available to all users on equal terms. (This system has long been in operation.)

Public ownership of inner harbor sites and facilities thereon, subject to short term leases by business enterprises.

Public ownership of inner harbor sites, subject to long term leases, and business ownership and operation of commercial facilities thereon.

Private ownership of sites on ship laterals of the main canal, and private ownership and unhampered use of industrial sites thereon.

"Public ownership of harbor sites as practiced here," states Mr. Parker, "is not confined therefore to the mere building and operation of port facilities, but embraces a complete policy under which both public and private enterprise may find free play under the most favorable conditions. The idea is to supply,—with public funds,—facilities for shippers and transportation lines who are not ready to create the facilities themselves, leased sites for those who desire temporary occupancy, and an opportunity for fee simple ownership of waterfront sites for those who desire to invest in facilities for permanent occupancy."

Before describing the canal and other facilities provided by the port it would be well to consider in brief the general layout of New Orleans, as it is today. New Orleans covers an area of 196 square miles, all of Orleans Parish. Much of this area lies between the Mississippi River on the one side and Lake Pontchartrain, an arm of the Gulf, on the other. A large acreage of lowlands has remained undrained and unused. The lake is five miles from the river. The river harbor averages three-quarters of a mile wide and is 30 to 200 feet deep. The port has a frontage of 41.4 miles on both sides of the river, and 11 miles on the new Inner-Harbor Navigation Canal. It is 110 miles from the mouth of the river. The South Pass Channel at the mouth has a depth of 30 feet at mean tide. A 35-ft. channel is being made through Southwest Pass. Lake Pontchartrain is 36 by 22 miles. In addition to the new canal there are two small ones averaging five feet in depth.

The canal's uses are many and unique. It frees the port from physical disabilities that now exist. It permits of the transformation of great tracts of interior marsh lands—96,000 acres in all—into splendid waterfront property, readily available for the purposes of commerce and industry. Silt and the swift current at the mouth of the river present a difficult problem, but the completion of the canal makes possible the dredging of a ship channel of whatever depth desired

direct from the Lake to the Gulf, a distance of 65 miles, compared with the present 110 miles and at a point many miles east of the river mouth, affording a safer and shorter route to the sea. Nine out of ten ships would thus save possibly 24 hours on every voyage to and from the port. It is a part of the Intra-Coastal system of canals. By opening this new way to the Gulf, commerce of the Mississippi Valley would be greatly facilitated, and it enables the port to adequately fulfill its great economic destiny as a local sea-port between the 27 states of the Mississippi Valley especially and all the world, also between the Atlantic and Pacific coasts. It affords better conditions for wharves than the river banks in point of stability and of water level conditions. It makes possible the use of piers and slips, which cannot be built into the swift and deep river, along which space-consuming quays must be erected. It will facilitate shipbuilding.

In addition, leasing of and fee simple ownership of harbor front sites is permitted, as outlined above. The Board of Port Commissioners confidently anticipates the development on the banks of the canal of a great commercial harbor and on the laterals a great industrial center, the construction of spacious and convenient harbor works that will be more economically constructed and maintained than in any American port, and a growth in port facilities measurable only by the growth in wealth and commerce of the great Mississippi Valley.

The digging of a canal through the City of New Orleans was a long cherished plan. Initially planned for navigation purposes the project today has multifarious uses and tremendous possibilities. Authorization for construction was given by the Legislature in 1914. But for sundry reasons the Board did not then avail itself of the authorization. Then came our entrance into the World War, and the demand for the construction of ships and more ships. Formation of a "City Shipbuilding Committee" gave new impetus to the project, and plans were formulated for an industrial basin. The Port Commission immediately committed itself to the construction of such a basin, but the plans were later amended to provide for vessels of 30-ft. draft. So construction was carried forward along the broader lines. Because of a variety of conditions no early consistent study for formulation of policies by which the Board would be guided in bringing the Inner-Harbor Canal into use as an added port facility was attempted. In 1921 the Board was reorganized under a new constitution and the stability as an organization was established. Thereupon it created an Advisory Committee under A. M. Lockett, vice-president of the Board as Chairman, and began an intensive study of the whole problem. Later Mr. Lockett and J. F. Coleman, consulting engineer, went abroad to study European ports in the hope of obtaining additional information. Policies of operation of control to be established in the near future will to a large extent be based upon these reports.

Actual construction of the canal started June 6, 1918, the George W. Goethals Company, of New York City, being employed as consulting engineers. After crossing the city the canal connects with the lake, which joins Bayou Bienvenue, which flows eastwardly for nine miles to Lake Borgne. It is 30 feet deep and now has a bottom width of 150 feet. Ultimately it will be widened, part to 500 and part to 600 feet, thereby forming a spacious inner-harbor with lateral canals making possible the development of the entire area of 96,000 acres of now waste lands and providing if needs be hundreds of miles of additional waterfront.

Because the lakes are arms of the Gulf their waters are at sea level, with practically no tide. At flood stage the river is 20 feet higher than the lakes, and this necessitated the building of a lock, located 2000 feet from the river. It is constructed of reinforced concrete, 640 feet inside length, 75 feet inside width, and permitting the passage of vessels

of 20,000 tons and over. At low water it will pass a vessel drawing 31.5 feet. There are five sets of gates, each driven by a 60 horse power electric motor. The outside dimensions of the structure are—length, 1020 feet; width, 150 feet; and height, 68 feet. It alone cost upwards of \$9,000,000, and weighs in its entirety 225,000 tons.

An emergency dam crane is located near the river entrance to the lock, so that should an accident occur it is possible for the crane to move eight steel girders each weighing 90 tons, into slots in the walls of the lock, thus effecting an impassable barrier to the waters in less than one hour. The crane is driven by a 300 horse power electric motor.

Four bascule bridges cross the canal, being designed and placed to meet the traffic conditions of the city. Each has a 30-ft. right of way for railroad tracks, 22-ft. space for vehicles and street cars, and 8-ft. for pedestrians.

The Florida Walk Drainage Canal crosses the canal site at a right angle, hence it was necessary to construct an inverted siphon of reinforced concrete reaching 46 feet below the surface of the water. It has a capacity of 2000 cubic feet per second, and cost more than \$850,000.

Before the canal was completed ships were built and launched on it and taken to sea through Bayou Bienvenue and the Lake Borgne route, there being a channel running from 9 to 14 feet deep, which is now being used by barges operating between New Orleans and the Warrior River.

Because of the difference in level of river and lake waters, quicksand deposits, etc., great difficulties were encountered in construction work. Over 10,000,000 cubic yards of earth were excavated and used to reclaim the marsh land in the canal zone. Approximate quantities of some materials used are as follows: 2,500,000 feet of lumber for concrete forms; 125,000 barrels of cement; 100,000 cubic yards of concrete; 6000 tons of reinforcing steel; 6500 tons of miscellaneous steel.

In 1921 the lock was finished and in 1923 the canal was opened to navigation. So have come to fruition plans and projects dating back to the days of the French colonial governors who visioned the idea of a short route to the sea, but they have been carried out along strictly modern lines and embrace ideas in scope and latitude so broad that the early proponents of the plan would stand aghast at.

Recommendations have been made embracing the following pertinent development plans: 1—A clear channel now 300 feet wide at the surface, ultimately to be 500 and 600 feet wide at points depending upon quay or pier construction. 2—Provision for construction of laterals. 3—Suggested type of quays and piers and slips for various sections. 4—Piers to be not less than 1000 feet long nor 400 feet wide. 5—Adequate turning basins at necessary intervals. 6—Entrance space provided to proposed deep sea canal. 7—Marginal roadways and Belt Railroad tracks and yards, one yard to be in each of three designated sections on either side of canal. 8—Reservations for warehouse space. 9—Space for a Free Port Zone.

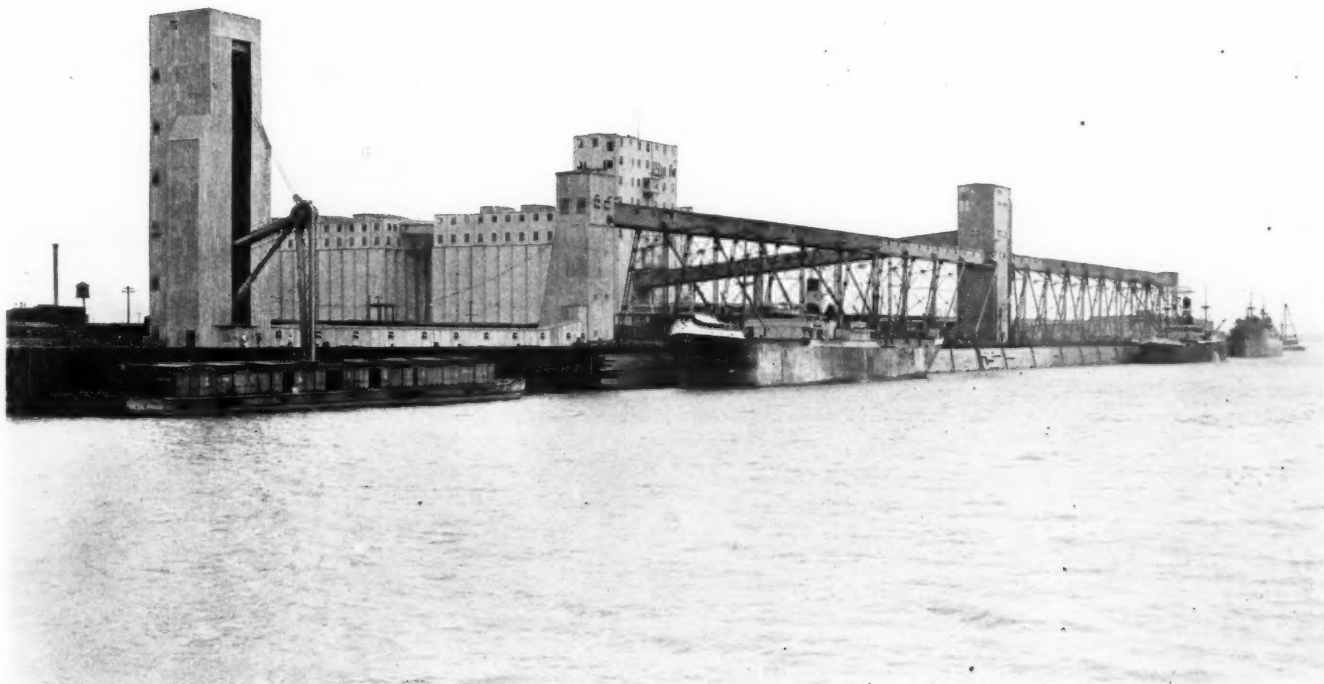
"We feel in creating this splendid work we have amply guaranteed the Port against failure to provide any facility the future may demand," states R. S. Hecht, President of the Board of Commissioners of the Port of New Orleans, adding: "We are commencing to create on its banks what we believe will be the most convenient and economical port in existence. We expect to see a great industrial city develop.

"These facilities are publicly owned and out of politics. Further, they are operated without profit for the State of Louisiana by business men who serve without pay, the details being carried out by a general manager and employees. The terminal properties of the Port are worth perhaps \$100,000,000, and of these properties the Board owns about 85

(Continued on page 91)



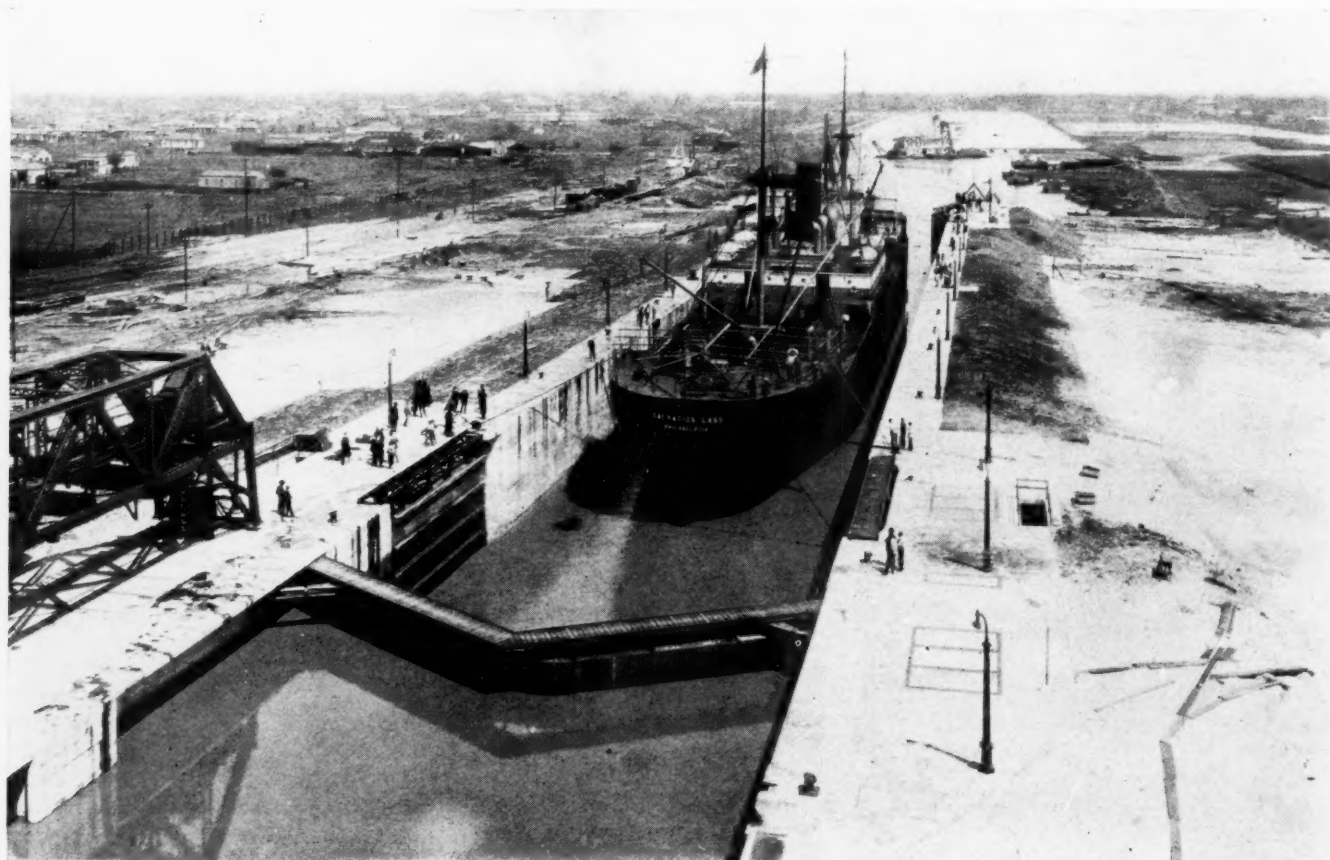
Aeroplane view showing Mississippi River and entrance to \$20,000,000 Inner-Harbor Navigation Canal. Also New Orleans Port Terminal Buildings, formerly U. S. Army Supply Base.



Public elevators at New Orleans. Grain being unloaded from barge through marine leg into elevators; also ocean going ships being loaded with grain at the same wharf.



Four Bascule bridges cross the canal. Each has a 30-ft. right-of-way for railroad tracks, 22 feet for vehicles and street cars and 8 feet for pedestrians.



"Salvation Lass," 7500 d.w.t., passing through lock. At this time the difference in level between the canal and river was about 20 feet.



The public grain elevator has a capacity of 2,622,000 bushels. It is of reinforced concrete, fireproof, and modernly equipped. The public cotton warehouse consists of 5 warehouses, compress plant and wharf house giving storage capacity of 420,000 bales.



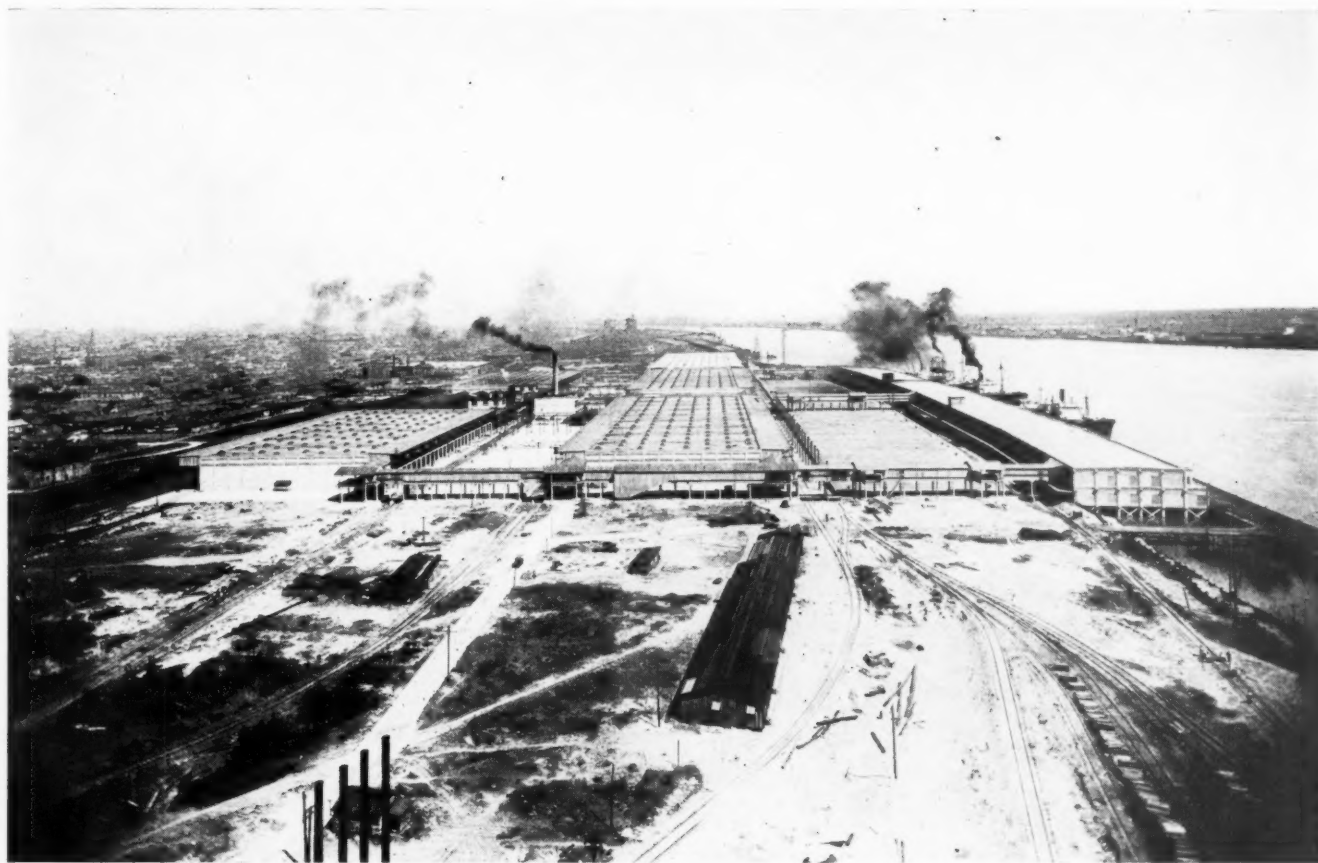
\$9,000,000 reinforced concrete lock. Located 2000 feet from the river. It has five sets of gates 640 feet long and 75 feet wide (inside measurements), and at low water will pass a vessel drawing 31.5 feet.



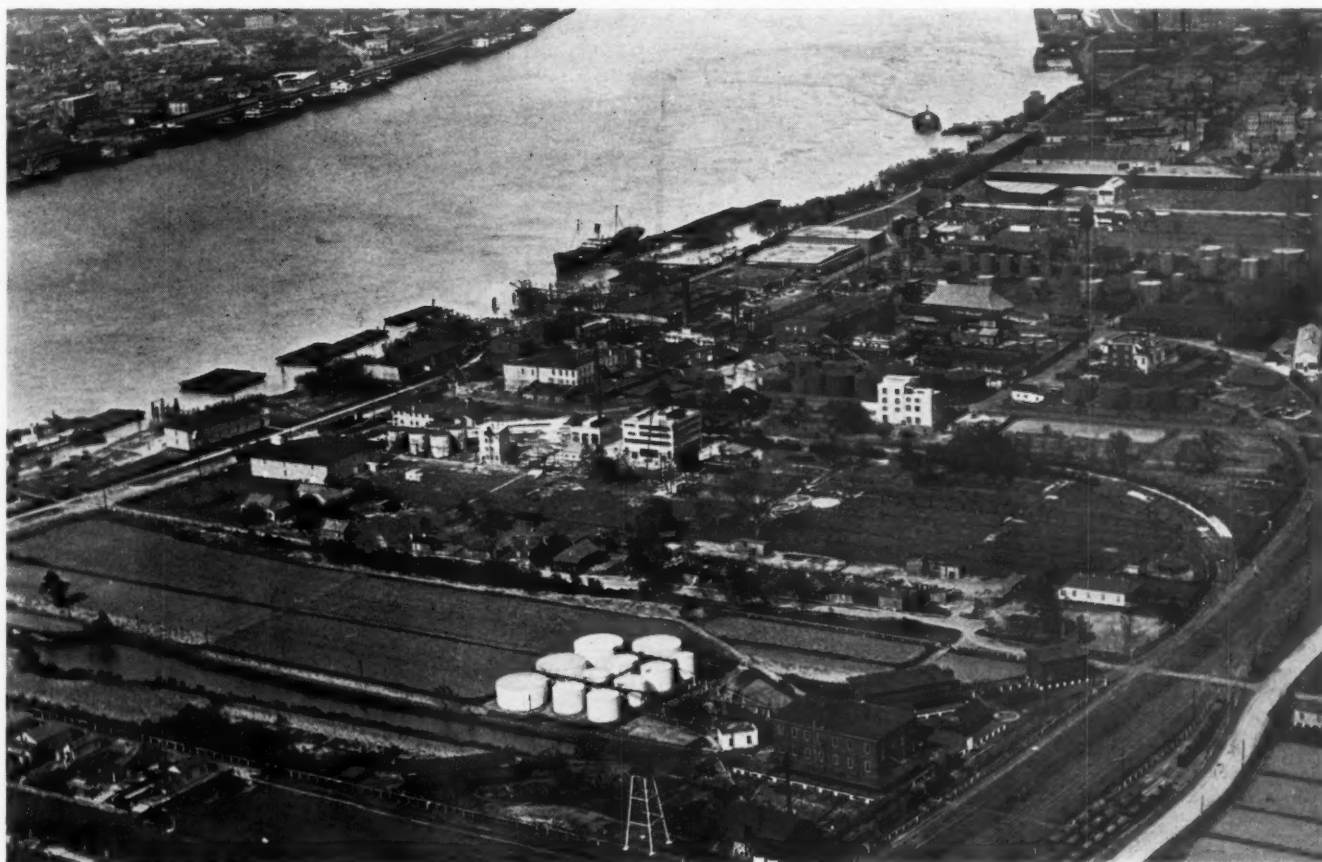
Plant of United States Industrial Alcohol Co.



Jahneke Dry Dock & Ship Repair Co., Inc.



The Public Cotton Warehouse has a storage capacity of 320,000 bales. Four ocean-going vessels may load simultaneously from the wharf, which has a capacity of 60,000 bales. The daily loading rate is 7500 bales.



Group of industrial plants.



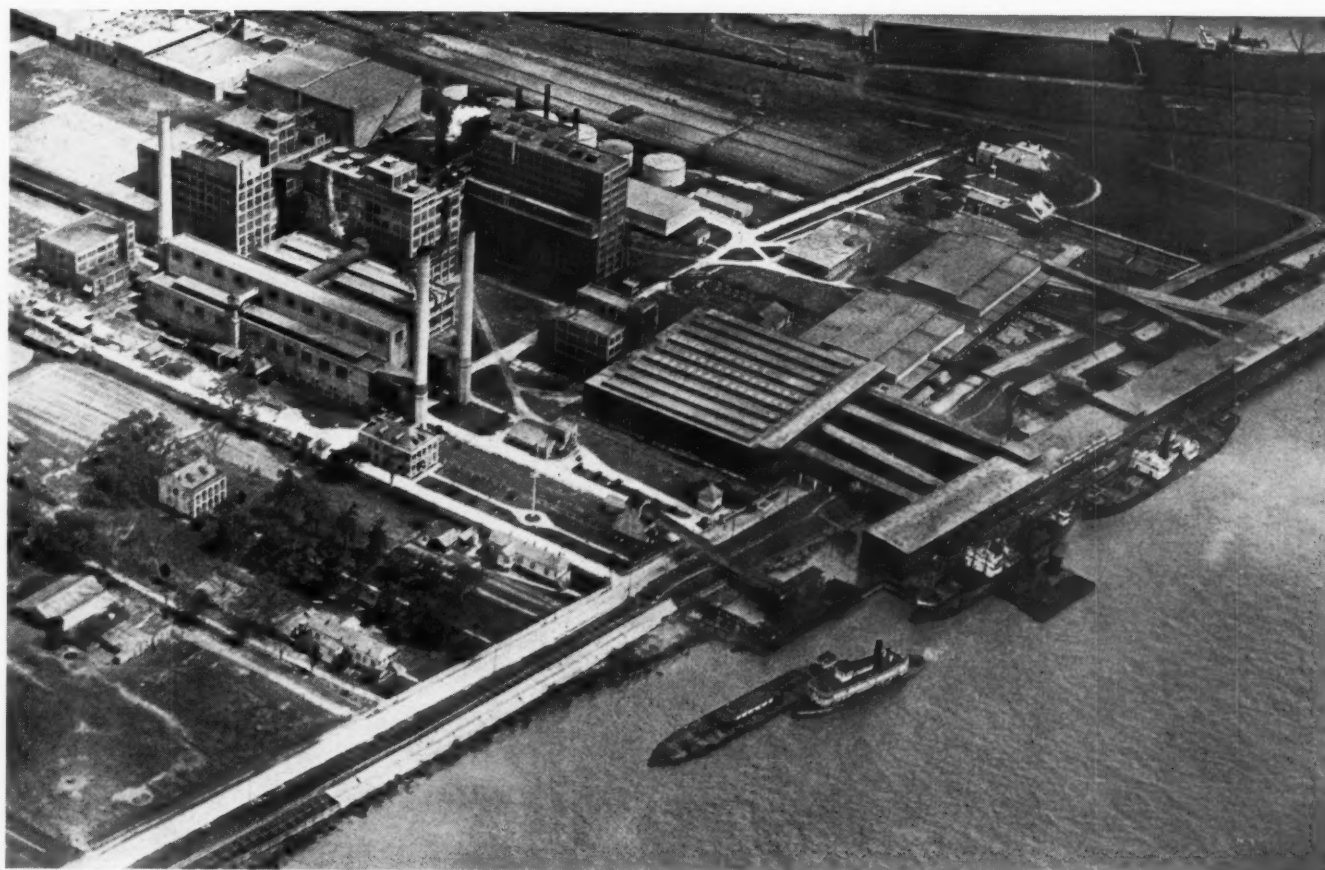
The Mississippi River furnishes to New Orleans a natural, fresh water harbor open the year round averaging $\frac{3}{4}$ of a mile in width and ranging from 30 to 200 feet in depth.



Fireproof warehouse of Anderson-Clayton & Co. constructed by The Foundation Co., New York. Public and privately owned plants provide facilities for storing more than 500,000 bales of cotton at one time.



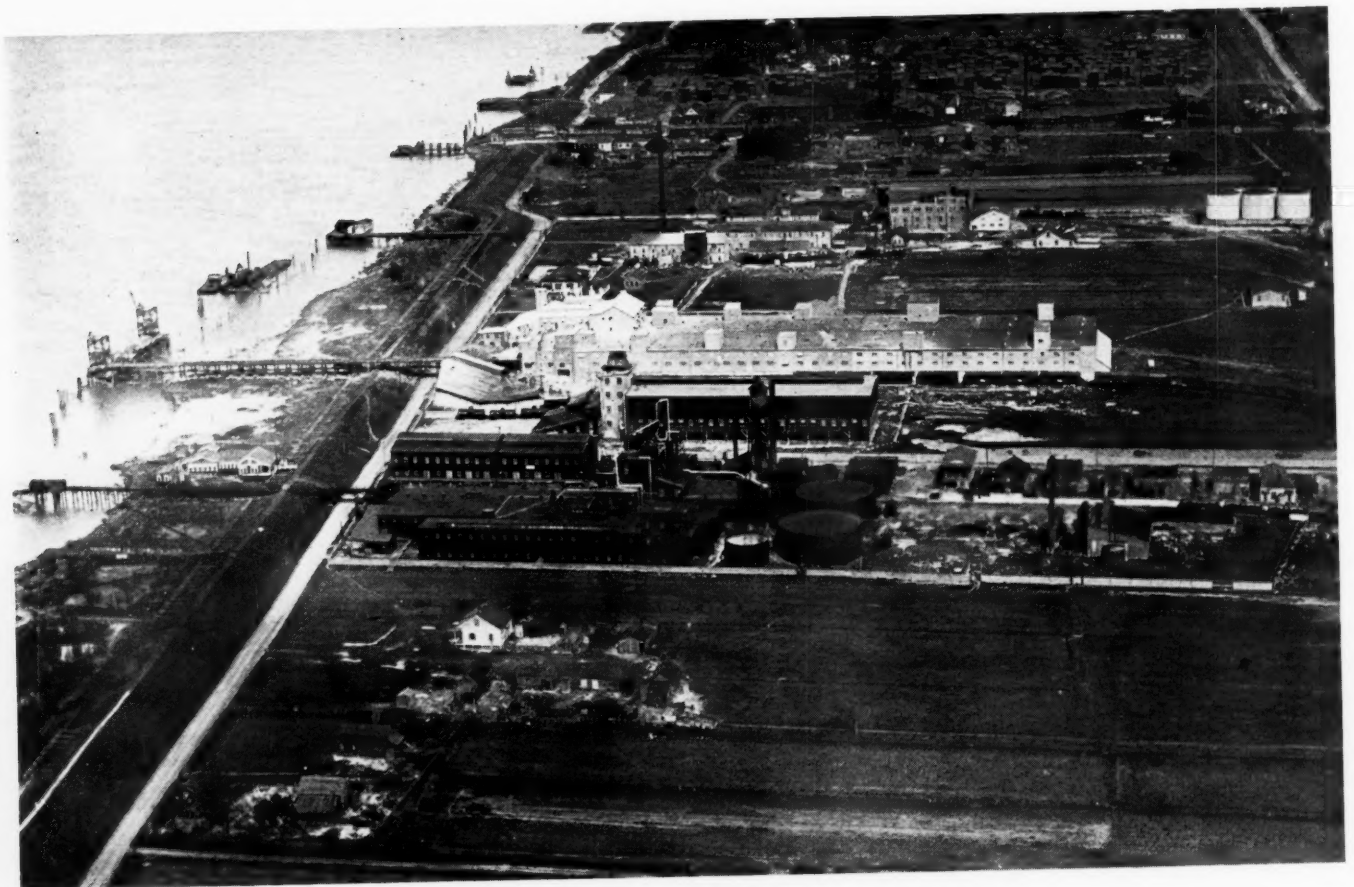
Looking downstream, Dock Board coal tipple in foreground, grain elevator, cotton warehouse.



Mammoth plant of American Sugar Refining Company on the Mississippi River. The only slip on the River at the Port is located just below this plant and provides for berthing 6 vessels at one time. It is the property of the Southern Railway.



Huge storage yards of Louisiana Cypress Company.



Jefferson Distilling and Denaturing Co., Swift & Co.

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per cent and has a certain regulatory power over the rest.

"We believe wisdom requires the utilization of all portions of our harbor. But we feel we shall find it wiser to build for the needs of the future more extensively on the canal than elsewhere. We shall be away from the instability of the banks of the river, away from the rise and fall of the Mississippi. We can build more concentrated and better coordinated facilities. And finally we expect the industries of the canal to be themselves the source and destination of much cargo. We doubt if fundamentally there is any port in the country cheaper to operate than ours. But we feel that even greater economy can be secured on the canal.

"Feeling as we do that this port has ahead of it a steady and continuous growth, and knowing as we do that through this gateway many commodities must come and go which could well be stopped here and manufactured into more finished products before going farther, we cannot help feeling that a great industrial development is sure to go hand in hand with this greater port development. In our canal we have perhaps undertaken the boldest and most progressive stroke ever undertaken in port affairs. Without congestion and with great economy and dispatch, and with coordination alone possible in a centrally controlled port, we see New Orleans able to expand indefinitely into an efficient commercial and industrial center."

An idea of the amount of work under way and contemplated by the Board of Commissioners of the Port of New Orleans is given in the following tables (issued May 15, 1923):

AUTHORIZED WORK

Description	Estimated Cost
Reconstruction of Army Supply Base Wharf	\$500,000.00
Construction of Claiborne Wharf	1,840,000.00
Fire Protection Service Napoleon Ave. Storage Yard ..	1,650.00
Construction of Celeste St. Wharf and Shed	459,835.47
Portable Escalator—Cotton Warehouse	7,000.00
Construction of Straw Warehouse	11,200.00
	\$2,819,685.47

CONTEMPLATED WORK

St. Joseph Street Wharf and Shed	\$485,400.00
St. Andrew Street Wharf and Shed	625,000.00
Dumaine Street Wharf (Reconstruction)	690,000.00
Erato Street Wharf (Reconstruction)	267,000.00
Poland Street Wharf (400 Ft. Addition)	450,000.00
Canal Street Beautification	350,000.00
Grain Elevator Power Plant	70,000.00
Grain Elevator Disc Separators	18,000.00
Banana Conveyors, Erato Street (2)	60,000.00
	\$3,015,400.00

The canal forms the most costly project undertaken by the Board of Port Commissioners, but many important other publicly owned and operated facilities have been completed and others are now being constructed and planned. For a considerable period the port has grown at the rate of 10 per cent annually. The centralized public, but non-political administration, under which this port operates affords an opportunity unexampled in America to create economically the adequate facilities as needed. A broad, carefully balanced plan promulgated with due regard to completed and projected units, together with the fortunate financial position insures expansion of facilities to meet all needs.

The present wharves are built parallel to the river banks and extend for over 10 miles. Most are covered with single-story transit sheds, affording an area of 7,000,000 square feet on which to handle cargo at shipside. Railroad import and export terminals are provided by the following: Illinois Central Railroad, Southern Railway, the Chalmette Slip, Trans-Mississippi Terminal Company, Texas & Pacific Railway Company, Missouri Pacific Railway, Southern Pacific Railroad and Steamship Co., etc. Besides the public wharves, railroad terminals and United States Government facilities, over 30 industries have private landings and these wharves have a combined area of 3,020,396 feet.

The public warehouse (excluding cotton storage) have a to-

tal floor area of 2,000,000 square feet of which over half is within 500 feet of the water front. At a cost of over \$6,000,000 the Board in 1914 built the Public Cotton Warehouse and Wharf Terminal, which is the largest of its kind in the world, including five warehouses with a storage capacity of 420,000 bales and a daily receiving capacity of 7500 bales from cars and 2000 bales from vessels, a compress plant and a wharf house. Construction is entirely of reinforced concrete with the exception of the wharf, which is of creosoted timbers. Here it is possible to load four vessels simultaneously. The board operates the warehouse, but responsibility for weighing, sampling, etc., is assumed by the New Orleans Cotton Exchange. Receipts for cotton in this plant have a wide negotiability. Insurance rate is 24 cents per \$100 annually.

The Army Supply Base, covering 48 acres, is now partly under the operation of the Board and open for commercial use. Built in 1918 and 1919 by the Government it consists of a covered wharf 2000 feet long, and three 6-story concrete warehouses each 140 feet wide and 600 feet long, having a combined storage capacity of 178,500 tons. A storage yard to accommodate 743 cars is also provided.

There are eight grain elevators in the port, and one of these having a capacity of 2,622,000 bushels, compared with the combined capacity aggregating 7,572,000 bushels, is the Public Grain Elevator. It is built of reinforced concrete, entirely modern in design and construction and efficient of operation. It has an unloading capacity from cars of 200,000 bushels and 80,000 bushels from vessels daily. The loading capacity into vessels is 100,000 bushels per hour. It is operated on equal terms to all railroads. Recently a marine leg unloader was installed to facilitate the movement of grain by barge from St. Louis and Cairo to New Orleans, and it transfers 15,000 bushels hourly from barge to elevator.

A public coal handling plant with a storage capacity of 25,000 tons and an hourly loading rate of 1000 tons is owned and operated by the Board. The wharf affords space for loading three vessels simultaneously, and both bunker and cargo coal are handled. The depth of water alongside is 30 feet. With the completion of the channel to the Gulf from the canal the port will have a direct deep water connection with the coal fields of Alabama.

The handling equipment of the port is unique and efficient. Many large derricks, several locomotive cranes, banana conveyors, the telfer system for sugar, stationary and portable conveyors for all commodities, elevators of various types, and trucks of many designs, are employed. There are three fruit landings, each equipped with 13 banana unloaders that land 2500 bunches hourly each.

A fire fighting tug, the Deluge, is now being built for the Board by the Johnson Iron Works, Dry Dock & Shipbuilding Co., and another, the Samson, is now in use. Two motor patrol boats and a force of 103 men are engaged.

Twelve railroads enter the city, and 10 of them spread fan-shaped north, east and west, giving trunk line connections with all important points. Four of these own private terminals on the river front. They are as follows:

Illinois Central Railroad Company.
Louisiana Southern Railway Company.
Yazoo & Mississippi Valley Lines.
Louisville & Nashville Railroad Company.
New Orleans and Lower Coast Railroad.
New Orleans and Great Northern Railroad.
Louisiana Railway and Navigation Company.
Morgan's Louisiana and Texas Railroad and Steamship Company (Southern Pacific Railway.)
Gulf Coast Lines.
Missouri Pacific Railroad.
Southern Railway System.
Texas and Pacific Railway Company.

The New Orleans Public Belt Railroad, owned by the City of New Orleans, has connections with each of these lines, and is destined to play a very important part in the future in-

dustrial and commercial development of the city, for it serves exclusively all public wharves and port facilities controlled and operated by the Board of Port Commissioners. Its switching charges are determined by the Interstate Commerce Commission, the general charges at this time being \$6.30 per car flat (with certain exceptions), regardless of tonnage or distance. The interchange rate for transportation of cars from one carrier line to another is \$2.25 per car. All charges cover movement of a car loaded and the return of the empty car, or vice versa. The property of the railroad at the present time consists of 25 miles of spur tracks and sidings, 32.6 miles of yard tracks, and 22.85 miles of main line, totaling 80.66 miles. Sixteen Baldwin type locomotives are used. Last year this railroad handled 289,507 cars.

A legislative act of 1908 provides for the issuance of \$2,000,000 in bonds for public belt railroad purpose and the last \$600,000 will be sold this month (June, 1923). The line has been in active operation for over 13 years, and has been the means of greatly reducing the terminal charges at the port. It has been self-sustaining since inception, deriving no benefits from any source or taxation.

The city through the Public Belt Railroad Commission, a board of 17 members appointed by the mayor from the Board of Trade, Cotton Exchange, Sugar Exchange, Association of Commerce, etc., is authorized to acquire a bridge to connect the east and west banks of the Mississippi River here. The constitution provides for the issuance of bonds not to exceed \$15,000,000 to be secured solely by liens against the bridge and appurtenances, and the present property can not be mortgaged to assist in building the bridge. A Board of Advisory Engineers has reported favorably upon the feasibility of constructing a combination highway and railway bridge. Lands on both sides of the river have been acquired. The type of bridge recommended is a low-level, two-track structure, with a total of nine spans. An upper deck highway for electric railway and vehicular traffic is provided. The Board of Engineers is as follows: Bion J. Arnold, Chicago, Ill.; J. V. Davies, of Jacobs & Davies, New York City; J. A. L. Waddell, Kansas City, Mo.; and A. F. Barclay, engineer, New Orleans Public Belt Railroad Commission.

The service enjoyed by the public is administered by three agencies, two of which have been outlined above. The primary public necessity is for levees through which the community is protected from overflow, and the authority is supreme in the hands of the Board of Commissioners of the Orleans Levee District, where the safety of the city from overflow is involved. On the river side of the levees the Port Commission is the agency, and it controls the surface of the levees and property subject to the uses of commerce and provides means for the transfer of commodities between rail, highway and water. Rights of way have been provided the Public Belt Railroad and its development aided in every way by the board.

The Levee Board is a state board of seven members appointed from the city by the governor. The Port Commission is as previously stated a state board of five members, likewise appointed by the governor from among business men of the city. And the Railroad Commission is a municipal body of 17 members appointed by the mayor from the Board of Trade and similar associations. Almost without exception these boards have been actuated by proper motives. The jurisdiction of the several boards overlap and the terms of office of the members expire at irregular intervals.

Navigable waterways radiate from New Orleans to Pittsburgh, to St. Paul and Minneapolis, to Kansas City and will soon reach Chicago. An Intra-Coastal Canal will in a short time extend from Pensacola to Brownsville, Tex., crossing the Mississippi at New Orleans. By water the leading lines are now maintained by the Federal Government on the Warrior and Mississippi. On the seas upwards of 100 steam-

ship lines serve the port. The valley and its transportation lines form a funnel down to the port at the mouth of the Mississippi River and thence by sea routes to the world's markets.

New Orleans believes that the markets of greatest promise lie in Latin America, the Orient and Africa. Because of the bulk of raw materials, magnitude of resources and low transportation costs possible in the Valley, combined with its open and all embracing policy New Orleans anticipates a sharp favorable diversion from the normal tonnage graph of commerce and industry and has planned its development only after comprehensive study and thorough analysis to care for the increase. It has sought all of the good in public ownership and now proposes to encourage private ownership of facilities, and is using its power to so guide and influence both as to avoid the limitations of the one and the tendency of the other toward monopolization.

Port authorities here are in a position to provide policies under which any wholesome tendency in commerce and industry may be fostered. Lost motion in handling, unnecessary drayage, high costs of labor, insurance and money, which impose a burden on transportation, port congestion resulting from lack of proper planning, personal greed and the absence of unselfish guidance of authorities—these have resulted in high charges in many American ports, thereby narrowing world competitive markets for our products. Knowing these facts New Orleans has planned for tomorrow to avoid these complications and disadvantages.

Prior to 1846 boats on the Mississippi, Ohio and other rivers enjoyed a monopoly of Valley commerce. Seventy-five years ago New Orleans was a very large port. But conditions gradually changed, and the railroads from North Atlantic ports tapped the Valley at many points, and the boat lines fell fairly easy preys. Railroad operators didn't believe there was enough business for both rails and boats, and the Valley's foreign markets were almost wholly in western Europe, nearer Atlantic ports than New Orleans.

But then came the war, which decreased Europe's buying power, hastened the period in which Latin America must develop, vastly increased the cost of rail transportation, augmented the industrial output of America, forced a return of inland water transportation on a great scale, and left the world more largely dependent than ever on this great producing region, the Mississippi Valley.

At the request of the people of the Mississippi, Ohio, Missouri and other great valleys, the Federal Government created a barge line service between New Orleans and St. Louis on the Mississippi and between New Orleans, Mobile and Birmingham on the Warrior. A double purpose was planned:—first, to augment rail transportation; second, to wipe out by actual service handicaps on inland waterway use developed through non-use. The idea was and still is to complete a practical demonstration of the feasibility and economy of such transportation and then sell the existing facilities to business enterprise.

These barges are now moving freight at 80 per cent of the rail rate. The equipment is not yet complete, needed terminal facilities are being supplied, interchange arrangements with the railroads have just been satisfactorily effected, and the larger economy of the service is yet to be developed.

With the completion of the lock and dam system on the Ohio, the channel improvement projects on the upper Mississippi and Missouri rivers, and the Lake-to-Gulf channel from Chicago—the former largely completed and the latter provided for—there will be water interchange between Minneapolis, Chicago, Kansas City, Pittsburgh, St. Louis, New Orleans, Pensacola, Birmingham, Mobile, Galveston, Houston and Brownsville.

The equipment and terminals are modern and efficient.

Barges are built of steel with a carrying capacity of 2000 tons. There are 48 in constant use on the Mississippi River, and during 1921 the barge line saved the public \$850,000 over all-rail freight routes. Powerful tow-boats, especially designed for the work are employed. With a 12,000 ton tow these boats will make 12 knots down stream and 8 up. When the entire fleet is completed it will be able to furnish one billion ton-miles annually.

Another factor of great importance to the Port and the Valley is the Panama Canal. Though opened before the war its effects were not fully appreciated until peace came. Now New Orleans finds itself operating a coastwise port in growing trade between the Valley and the West Coast of the United States, also to the west coast of South America, to Japan, China and the Far East.

Many important municipal projects had to be completed before port development on such a big scale could be undertaken. One big problem successfully surmounted was the installation of effective sewerage and drainage systems, for an area devoid of natural grades and below the level of the surrounding waters. During 1922 about \$1,900,000 was spent for such work, and this year about \$1,500,000 will be expended, according to George Earl, of the Sewer and Water Board. This year about 8 to 10 miles of small diameter sewer lines will be installed as compared with 22 miles laid in 1922 as well as three miles of main delivery pipe running from 39-inches to 43-inches in diameter.

In the very near future approximately \$1,750,000 will be expended upon the water purification plant, providing for doubling its capacity.

Just now two motor driven centrifugal pumps to operate at from 70 to 100 pounds pressure with outputs of 30,000,000 to 40,000,000 gallons are under contract. These pumps were designed by the Sewer and Water Board under the direction of A. B. Wood, who has been the engineer in charge of power and pumping stations for the past 15 years, and who has done quite phenomenal work in designing and constructing efficient pumping equipment, particularly of low-lift types.

On the drainage system the daily pumping capacity is 7,000,000,000 gallons, and eleven large stations are provided to handle this tremendous volume of water. There are eight stations that pump from low to high levels and three final discharge stations are provided. Because of the high labor costs involved in keeping these plants in operation during periods when not needed due to water conditions, eight of them have been equipped with automatically operated electric driven pumps. It is only necessary for an attendant to visit each plant once every twenty-four hours to inspect the equipment. Because of the great amount of trash picked up in these lines a pump of special design had to be built that would not lose its efficiency when trash accumulated, and this was so successful that similar pumps have been installed in each station.

A new 6000 kilowatt turbine is now being installed at the main drainage pumping station, by the Allis-Chalmers Manufacturing Co., of Milwaukee, Wis. The Lasker Iron Works, 3201 So. Lincoln St., Chicago, has the contract for two boilers of 1700 horse power combined.

An idea of the growth of the city may be gained by studying the following figures showing new water connections made during the past five years:

1918	705
1919	1,002
1920	1,614
1921	2,703
1922	4,051
Total	10,075

This gives a total of service connections in the ground on

January 1, 1923, of 63,292, the sizes running from 5/8-inch to 16-inches, all of which are metered.

Street and paving work is keeping pace as closely as possible with the growth of the city, particularly in the densely populated areas. Bonds sold provide for work to the value of \$1,205,000 this year, or about 8.8 miles, contracts for which have already been awarded, a variety of types having been specified. A total of 175,000 lineal feet of drain pipe will be required in connection with the above work, the size ranging from 6 to 27 inches.

Last year 12.2 miles of paving were contracted for at a cost at \$1,645,000, and since construction did not begin until November most of this work was carried over into 1923. Within the next eight months paving work valued at \$2,000,000 will have been completed. The latter part of September bids will be asked for about \$1,000,000 additional paving. A pedestrian viaduct is to be built on Canal street leading to the ferry at a cost of \$40,000. Improvements are to be made to the Newton street viaduct at a cost of \$80,000 to \$90,000.

The school building program of the city is extensive, and modern fireproof structures are being erected under the direction of E. A. Christy, architect for the Board of Education. There have been recently completed three schools—Gayarre, Andrew H. Wilson and John Dibert, each having a seating capacity of 600. Together with the Audubon School, which will be ready for use in the near future and will seat 1200, these four schools cost \$460,000. The Washington School providing for 1200 pupils, will be completed in July at a cost of \$250,000; The Paul Capadau School, having a capacity of 600, will cost when completed \$150,000, while the New Lafayette, of 1200 capacity, will involve the expenditure of \$275,000.

Thus there have recently been completed and placed in operation three schools costing \$345,000; a \$115,000 structure is nearing completion, as is a \$250,000 building; and two are under way at a cost of \$425,000. These will provide for 5000 additional pupils. In addition a big program is in sight but details are not now ready for announcement as the necessary grounds have yet to be purchased.

Three old schools have been entirely equipped with sprinkling systems by the Grinnell Company, Inc., of 275 West Exchange St., Providence, R. I. And this company has recently completed the installation of systems in 27 separate boiler rooms of school buildings. The installation is quite unique in that the buildings were of an old type of construction and the cost would have been comparatively heavy for complete sprinkling facilities. Careful surveys were made that showed the greatest danger from fire to be in the boiler rooms, hence this place alone has been protected by the sprinkler system.

Through mosquito elimination the old yellow fever problem has been effectively solved, and to secure immunity 250,000 above-ground cisterns have been removed. The same immunity from bubonic plague has been secured. In order to safeguard the port from this plague the ratproofing of every building in the city was required. To provide these safeguards \$11,000,000 has already been expended.

Provision has been made for a free port zone, should Congress pass an enabling act, where dutiable goods might be brought, repacked, reworked and exported without being subject to customs duty. American ships domiciled in Louisiana are not subject to any form of taxation; neither is a shipbuilding plant located in Louisiana, these exemptions having been provided in the State's constitution as an aid to the American Merchant Marine and ultimately as an aid to shipbuilding for world account. By special provision money on hand or deposited in bank is not subject to taxation of any kind. A city Zoning and Planning Commission has been regularly appointed. Under the direction of Charles A. Favrot, Chairman of the City Planning Committee of the

Association of Commerce, it is vigorously at work upon plans for development of the city upon lasting and profitable lines with due regard to serving the best interest of all concerned.

Increased demand for gas and electric service upon the New Orleans Public Service Inc. indicates the growth of the city. The figures are as follows:

GAS SERVICE		
Year	Total Number Meters	1000 Cu. Ft.
1918	49,232	1,573,874
1919	50,751	1,657,801
1920	53,975	1,894,728
1921	55,706	1,919,861
1922	56,923	1,974,488

ELECTRIC SERVICE		
Year	Total Number Meters	K. W. Hrs.
1918	27,994	68,176,000
1919	31,805	78,730,000
1920	37,200	90,929,000
1921	42,701	96,114,000
1922	50,139	105,202,000

Telephone service demands have likewise increased with rapid strides, and regarding such growth the following information is furnished by the company:

**CUMBERLAND TELEPHONE & TELEGRAPH COMPANY, INC.
STATION PERFORMANCE, NEW ORLEANS, LA.**

	Installations	Discontinuances	Net Gain
1918	3542	2997	545
1919	7655	2901	4754
1920	4554	2519	2035
1921	7128	3461	3720
1922	8134	4814	3320

It is estimated that in 1923 we will install 8769 stations, discontinue 4832 and make a net gain of 3937 stations.

Up to April 20 we had actually installed 2666 stations, discontinued 1165, making a net gain of 1501 stations.

During the year 1922 we spent over a million dollars in extensions of plant in the City of New Orleans and we have estimates approved and under way covering expenditures of \$1,236,000 for the year 1923.

It is estimated that in 1928 we will have in service in New Orleans a total of 64,842 stations, which may be compared with 26,224 stations in service on January 1, 1918 and 42,059 in service on April 20, 1923.

We have, through a corps of engineers, practically finished a survey of the City of New Orleans, which involved the counting of every house, the classification of same to rental value and the appraisal in accordance therewith of the telephone purchasing power of the present community—all of which showed that we have in New Orleans at the present time a total population of 433,588. We estimate that in 20 years, or in 1942, there will be in New Orleans a total population of 663,100, and that we will have in service as of that date a total of 130,271 telephones.

The Orleans Levee Board has plans far advanced for the construction of a sea wall and allied improvements along the shores of Lake Pontchartrain for a distance of five miles. As soon as the necessary lands are acquired actual construction will proceed. It is provided that a strip 1000 feet wide along the entire sea wall be dedicated to public use, and plans call for paved streets and sidewalks, parked areas, and provisions for a community bathing beach, bath house, etc.

Land reclaimed is to be sold at not less than 30c a square foot. Already more than 80 per cent of the land-owners in the area to be covered by the sea wall have consented to donate the land to the Board. It is estimated that the reclaimed areas can be sold for over \$5,390,000, which would leave a surplus of about \$1,900,000 above construction costs. It is estimated that the bath house and similar improvements will cost \$750,000, so that about \$1,144,000 will be available for continuation of the sea wall from Milneburg to Seabrook. In the event of the construction of the wall all the property behind it will rapidly develop and assessment values increase accordingly. In 1903 the assessment against the New Orleans Land Company, which has a frontage of a little less than two miles on the Lake, was \$12,000. With two-thirds of the property developed the assessment has jumped to \$1,624,000.

Three miles of right of way have been secured extending from Spanish Fort to Seabrook, and negotiations for the stretch from Spanish Fort to West End are under way. It will take three years to complete the project as planned.

Galveston Seawall Extension to Begin—Appropriation of \$670,000 Available.

Galveston, Tex., June 7—[Special.]—Security of Galveston and the island upon which the city is situated from inundation by the waters of the Gulf of Mexico in time of hurricanes is to be materially increased by an extension of the east end of the sea-wall a distance of 2860 feet. An appropriation of \$670,000 for the proposed extension was recently authorized by Congress. This money is now available and the work of assembling the materials is in progress.

The Galveston sea-wall and the fill of sand behind it, raising the level of most of the city from five to seventeen feet are two of the most notable municipal protection projects in the world, it is stated by engineers. Not only does the completed part of the sea-wall serve as a barrier against the waters of the Gulf sweeping over the city, but with the completion of the extension the military reservation of the Federal Government will be afforded protection. The sea-wall and fill have cost several million dollars. The task of pumping the sand from the bed of the ocean and carrying it through long lengths of pipe for making the fill was a remarkable engineering feat, and there was also involved the gigantic project of razing hundreds of buildings, including residences, churches and business blocks.

It is expected that the sea-wall extension will be finished this fall. It will be of reinforced concrete construction and will conform in all respects to the part already built.

Dredging operations restoring the Galveston channel to a depth of 30 feet and a width of 1200 feet will soon be in progress. A total of \$200,000 has been allotted for the work.

Alabama Power Company to Build Plant on Tallapoosa River—Will Develop 105,000 Horse Power—Other Projects Planned and Under Way.

Authority has been granted by the Federal Power Commission to the Alabama Interstate Power Co., a subsidiary of the Alabama Power Co. of Birmingham, to develop a 105,000-horsepower hydro-electric plant on the Tallapoosa River in Alabama. The development will be located at Cherokee Bluffs.

The Alabama Power Co. is at present rebuilding its Tallassee dam, the work being handled by O. G. Thurlow, chief engineer of the company. Construction is being carried on by the company's forces and it is expected that the rebuilding work will be completed by the first of the year.

In connection with this work, the company writes the MANUFACTURERS RECORD as follows:

"The hydro-electric plant at Upper Tallassee was formerly owned by the Montgomery Light & Water Power Co. In 1919 part of the dam was washed away and was not rebuilt by the owners. In March of this year the Alabama Power Co. took over the Montgomery Light & Water Power Co. properties and immediately began the reconstruction of the dam. No additional machinery will be installed at present and only such work will be done as will place the plant in operation with present facilities. The capacity of the plant is about 8000 horse power and will be used to supply the city of Montgomery with electric energy. The reconstruction work, consisting mostly of plain concrete, will cost about \$400,000. The work will be performed by our construction department."

The company advises the MANUFACTURERS RECORD that plans for the construction of the proposed plant at Lock 17 on the Warrior River are indefinite. Application has been made to the Federal Power Commission for permit to construct the plant and, in the event the permit is granted, it is planned to do the construction with the company's forces. It is stated that the work at Lock 17 will cost in excess of \$1,000,000.



Electrification of Railroads as a Solution to the Railroad Problem.

By LLOYD JACQUET, of the Westinghouse Electric & Manufacturing Company.

As early as 1830, railroad transportation was recognized as a business. Its success was such that it soon outgrew its original conception. Today it is, next to agriculture, the largest industry in the country. There are for instance, 253,000 miles of track, 65,000 locomotives and something like 2,500,000 cars of all classes in the great network of transportation systems in this country. The roads operating this immense system earned for the month of January, 1923 alone, practically \$100,000,000 on a valuation estimated at nineteen billion dollars.

Like all businesses, railway transportation must be operated at a profit in order to attract investors and to live. In the United States our railroads are attempting to live and prosper by rates set by the Interstate Commerce Commission in accordance with the Transportation Act of 1920. It is questionable whether these rates are proper. This question through the lack of public confidence has reacted to limit the railroad companies' ability to raise funds and has stunted the roads' ability to provide for increases in traffic. This is becoming a serious problem. Whereas the industries feeding and being fed by the railroads have increased at such enormous rates as to double their traffic every twelve years, track facilities have increased only a negligible amount in a like period.

The roads are always on the lookout for efficient means for accomplishing increases in track capacity and economies in operation. This is illustrated particularly well in the case of the Virginian Railway. The Virginian was built by the late H. H. Rogers, and extends from Deepwater, West Virginia, through the rich Pocahontas and New River coal fields to tidewater at Norfolk. It was essentially built for handling coal from the mines to that seaport.

From the beginning, the Virginian Railway attracted the attention of the railroad world. The road was designed built and equipped to handle a traffic far in excess of what might have then been considered reasonable. This "Rogers Folly," as it was referred to, has since then been vindicated, and the road's unusual development and progress is today the envy of many a larger railroad.

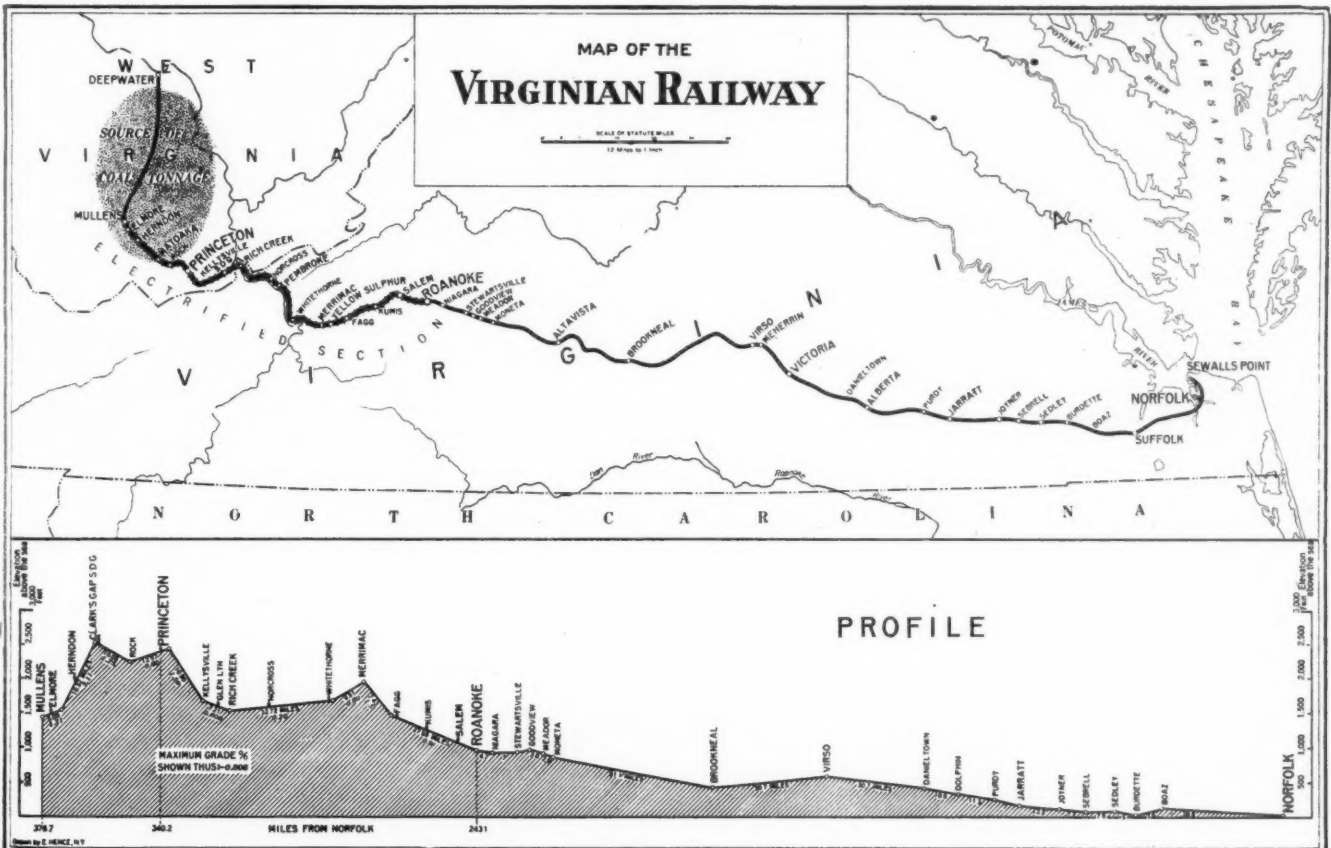
On the Virginian are employed the largest steam locomotives in the world. These are used to haul the largest freight trains handled by any road. Altogether about 7,000,000 net tons of coal are handled east bound annually. To handle this enormous amount of coal, a huge coal pier and loading system had to be developed at Norfolk.

In spite of all of these improvements, and in spite of its large capacity far in excess of its original program, the limit of capacity has been reached. There is a greater demand than ever for coal. The road is carrying more than it ever did before. But it cannot overload its system any more.

Another road cannot be built where the Virginian exists. This would involve a large expenditure of money and would be a wasteful duplication of effort. More trains cannot be run with steam operation because the largest locomotives in the world are now hauling the heaviest coal trains.

People need coal. The coal is there, in the West Virginia mines, millions of tons of it, ready to be shipped. And yet it cannot be brought to the hearth, because of the lack of transportation facilities. What is the solution to the problem?

The method used by the Virginian to solve this problem is typical of the road. From the beginning the road was built in accordance with the most approved and advanced engineering standards with a large vision for the future. After having established a reputation for the largest steam locomotives and heaviest trains in the world the Virginian now forges another step further as a pacemaker and is undertak-



ing an immense increase in its plant through an electrification project, the largest of its kind in the world.

Practically the entire coal tonnage carried by the Virginian Railway originates in the West Virginia coal basin. The Allegheny Mountains run through this region and give to the road its excessively high grades principally between Mullens and Roanoke. In fact grades of from 1 to 2 per cent are prevalent along these two points.

At present the coal tonnage is handled in 5000 ton trains which are hauled at a speed of seven miles per hour up the west grades by giant Mallet locomotives. Even with the immense amount of power thus available, this represents the utmost of their effort on the upgrades.

The trains are rearranged on the eastward slope into trains of 8000 tons, and locomotives then haul them to Norfolk and to the coal loading pier down a practically continuous grade at maximum speed. The greatest effort demanded from the system therefore, is the haul up the west slope of the mountains.

With electric locomotives it will be possible to haul trains of 6000 tons up the westward slopes at a speed of 14 miles per hour. This increases the capacity to more than double that previously available. These trains will then be filled out to 9000 tons capacity for movement to tidewater by steam locomotives. It is estimated that 12,500,000 tons of coal can be handled in this manner. It is as though another road were laid parallel to the Virginian and working with it.

The final demonstration of the desirability for the electrification of the road is the very material economies to be derived. Not only will nearly twice the tonnage be handled at double the speed over the same trackage, but a more efficient operation of the road will result.

Electric locomotives will again be successfully employed in the overcoming of restrictions in operation caused by increases in traffic, which difficulties were unsurmountable even with most powerful steam locomotives.

Not only will an increased speed result on the upgrade hauls but a perfect control through regenerative braking to take the train down hill safely will be available. In fact, regenerative braking proves to be a big economy, as 15 per cent of the current used up is given back to the line. This will amount to about 18,000,000 kilowatt hours fed back into the system annually.

This project calls for an expenditure of \$15,000,000 and the contract for the electrical equipment was lately awarded as, previously noted, to the Westinghouse Electric & Manufacturing Company.

Great Tensile Strength Claimed for New Bronze Composition.

Austin, Tex., June 9—[Special.]—Successful tests have just been made in the metal laboratory of the engineering research division of the University of Texas of a bronze composition metal which, it is claimed, shows the highest tensile strength known. The tests were made by Prof. H. R. Thomas, testing engineer of the division. The composition was discovered by Jens J. Olsen of San Antonio, an expert machinist and metal worker, who devoted several years to study an investigation of the metal. It is stated that he has perfected it to such a degree that it may be manufactured at a profit for commercial purposes.

The machine at the University of Texas, testing the strength of the welding metals, shows that Norway steel, the first tested, has a tensile strength of 55,400 pounds to the square inch. A similar test of Tobin bronze gives that metal a tensile strength of 41,200 pounds to the square inch, and a test of "Olsenium," this being the name of Olsen's metal, gives it a strength of 56,500 pounds to the square inch, 1100

pounds greater than Norway steel, and 15,300 pounds greater than Tobin bronze.

A test was then made of a forged alloy bar of Olsen's composition which tested 75,000 pounds to the square inch. This metal was of the medium hard quality, and Olsen declares that his harder composition bronze will test more than 100,000 pounds to the square inch.

At the test many men prominent in the metal manufacturing business, and also many engineers were present and it is pointed out that one of the strongest points of Olsenium is that it is non-oxidizing at any temperature below 3000 degrees Fahrenheit. Thus it is easy to weld. A test showed that both Tobin bronze and Norway steel burn like wood when the flame of an acetylene torch is allowed to remain on them. However, on Olsenium, the heat has no effect except melting the metal.

When subjected to intensive heat, Olsenium merely flows and will stick to any surface, either rusty, greasy or dirty, as was demonstrated when a strip of high quality steel was welded on a rusty cylinder. An effort was made to pry the two apart with the result that the steel bar broke. The welding remained intact.

So favorable was the test that the metal was adopted by engineering instructors of the university to be used in teaching the students.

The new metal is reported to be of very fine quality and suitable for making the best grade bearings and pieces of machinery that have to be very hard. Besides being non-oxidizing, it is said that the metal is non-corroding, and that neither salt nor salt water has any effect upon it, making it ideal for ship building.

Olsen is able to turn out from 150 to 200 pounds of the metal per day, which for the last few months, he has been selling for \$1 a pound, and is unable to supply the demand. Within the next few months he expects to be able to produce 400 pounds a day.

Olsen outfitted his machine shop, bit by bit, until at present it is valued at over \$20,000. Everything in it excepting a lathe and an engine, was designed and made by him.

An electric furnace, which has not yet been patented is among his inventions and it was necessary for him to make 296 individual parts on his lathe in order to produce this electric furnace.

Miami Sells \$2,730,000 of Bonds—Extensive Public Improvements Planned.

Miami, Fla.—Improvement bonds to the amount of \$2,730,000 have been sold by this city to a syndicate for \$2,675,400. Plans for the expenditure of the proceeds involve \$1,000,000 for park purposes, which will include the filling in and improvement of Bayfront Park and other work; \$750,000 for an adequate water supply; \$400,000 for the extension of the present municipal street car system; \$100,000 for an additional unit to the city hospital; \$75,000 for deepening and cleaning the municipal ship channel; \$75,000 for the city's share of new storm sewers; \$75,000 for the installation of a new fire alarm system and other fire department purposes; \$75,000 for acquiring land for street widening; \$40,000 for an addition to the municipal incinerator, and \$15,000 for comfort stations.

The syndicate purchasing the bonds was organized by George V. Richards of Powers & Young, Miami, who represented the following firms: Sidney Spitzer & Co., Prudden & Co. and Spitzer, Rorick & Co., all of Toledo; Provident Savings Bank & Trust Co., Breed-Elliott-Harrison and Season-good & Mayer, all of Cincinnati; N. M. Grant & Co., Roth & Irving Co. and B. J. Van Ingen & Co., all of New York, and Caldwell & Co., Nashville.

Atlanta's \$1,000,000 Spring Street Viaduct Now About Forty Per Cent Complete—Structure is Over Half Mile Long, With 60 Foot Roadway.

Construction of the \$1,000,000 Spring street viaduct in Atlanta, begun last fall, is about 40 per cent complete, and it is expected that the work will be finished by October of this year. When finished, this viaduct will serve as a wide cross-town thoroughfare with no street car lines to interfere with traffic. It is more than a half mile in length, and has a clear 60-foot roadway, the structure spanning several lines of railway track. These are the main line tracks of the Nashville, Chattanooga & St. Louis Railway, the Seaboard Air Line, Southern Railway, Louisville & Nashville Railroad, and the Central of Georgia Railway, in addition to the freight terminals of the Central of Georgia, Nashville, Chattanooga, and St. Louis, and the Seaboard Air Line Railroads.

The structure begins at the terminal station plaza on the south side of Atlanta, and ends in Spring street, at the junction of Marietta street on the north side. It will be 42 feet high at its greatest elevation, and will have a clearance above the railroads of from 22 to 29 feet. The girders used in its construction vary in length from 40 to 130 feet, some of them having been transported on 3 cars which were specially routed, in order to avoid as many bridges as possible, as the average weight of the girder is 50 tons.

The viaduct was designed by Robert & Company of Atlanta, and Harrington, Howard & Ash, of Kansas City, Mo., acting together as associate engineers. Contracts were awarded to the Nichols Contracting Co., of Atlanta, and the Virginia Bridge & Iron Works, of Roanoke, Va.

The accompanying illustration presents an aeroplane view of the viaduct and shows also a view of the city with the various railroad terminals, freight stations and tracks.



AEROPLANE VIEW SHOWING \$1,000,000 SPRING STREET VIADUCT, ATLANTA.

Birmingham's Municipal Auditorium to Cost \$464,000.

Birmingham, Ala.—Plans have been approved by the City Commission, D. E. McLendon, president, for the proposed municipal auditorium here, which is estimated to cost \$464,000. Construction bids will be opened on June 26 and work is expected to begin about July 1.

The seating capacity of the auditorium will be 6024 divided as follows: 2816 on the main floor; 1353 on the raised sides; 1000 on stage and 855 in the gallery. Design and construction of the building will be handled by the Birmingham Association of Architects.

\$500,000 Life Insurance Building for Jackson.

Jackson, Miss.—The directors of the Lamar Life Insurance Co. have selected Sanguinet, Staats & Hedrick of Fort Worth, Texas, to prepare plans and specifications for a ten or eleven-story building to be erected here at a cost of \$500,000. N. W. Overstreet of Jackson is associate architect. The building will contain about 200 offices and will be 82 by 120 feet. The first two floors will be 30 feet wider than the remaining stories in order to prevent adjoining buildings from cutting off the light, and at the same time making every office an outside one.

Work is expected to begin about October 1.

CONSTRUCTION BEGUN ON \$1,500,000 REMMEL DAM.

First Unit of Hydro-Electrical Development Which is Planned to Cover 10-Year Period—Cost of Entire Project Estimated at \$15,000,000.

Hot Springs, Ark.—Marking the beginning of a 10-year program of hydro-electrical development planned by H. C. Couch and associates, construction has been started by the Arkansas Light & Power Co., Mr. Couch, president, on the \$1,500,000 Rimmel dam and power plant on the Ouachita River between Malvern and Hot Springs. This will be the first of three units which the company plans, the entire development to involve an expenditure of \$15,000,000 and cover a construction period of ten years.

The Rimmel dam will be 900 feet long at the crest and from 50 to 60 feet high. It is estimated that the power station at this dam will produce 15,000 horse power, while the ultimate production from this and the other two dams will reach a total of 120,000 horse power. Initial construction on this unit will probably be completed in 1924, and an extension then begun.

Following the completion of the Rimmel dam, the company has tentative plans to begin construction of the Hot Springs dam on what is known as the Carpenter dam site, a few miles south of Hot Springs. This dam will have a height of 100 feet and a length of 1340 feet. Present plans provide for an initial installation of two 6000 kilowatt units at this plant to be followed later by the installation of a third unit. Simultaneously with the installation of the third unit, it is planned to install an additional unit of 3000 kilowatts in the plant at Rimmel dam. Construction of the Hot Springs unit is expected to begin in 1924 and to be completed in 1927.

As a third stage of the development, it is proposed to build the Blanco Springs dam and power station. This dam will be from 130 to 175 feet high and will be 905 feet long. Three 6000 kilowatt units will be installed initially and additional units will be installed at this plant as well as at the Hot Springs plant, as required by the load.

Contract has been awarded to Ford, Bacon & Davis, engineers of New York, for the construction of the Rimmel dam and station and surveys are being made by engineers of that company in collaboration with William Crooks, chief engineer of the Arkansas Light & Power Co. Frank J. Tralease of Ford, Bacon & Davis will supervise the work.

To Begin Construction of New Building for Mountain Industrial Institute.

Grundy, Va.—The board of trustees of Grundy Academy have voted to change the name to the Mountain Industrial Institute and have decided to begin immediately the construction of the first building on a 500-acre site which the school owns. The new building will be designed to accommodate from 50 to 75 students and is expected to be finished in time for the opening of the school in September.

The object of the school is to make it possible for poor boys and girls of the mountain sections to obtain a well grounded Christian education. Dr. Josephus Hopwood is president and S. R. Hurley, is president of the board of trustees.

Rock Asphalt Company to Develop 2000 Acres.

The Southern Rock Asphalt Company, capitalized at \$600,000, has been incorporated by J. K. Jarvis, A. J. Gohmann and L. D. Powell, all of Louisville, Ky., together with other interests, including J. M. Clark of Albany-Decatur, Ala.

In connection with its plans, the company wires the MANUFACTURERS RECORD: "About two thousand acres to be developed, five hundred tons daily capacity, plant costing \$150,000 to be erected near Flint, Ala. O. D. Robbins, engineer, Louisville."

Medical Building for Houston to Cost \$3,000,000—Will Provide Offices for Physicians, Surgeons and Dentists.

Houston, Tex.—Plans formulated by the Harris County Medical Association, the Houston Dental Association and officials of the Guardian Trust Company of Houston provide for the erection of an office building here for members of the medical and dental professions which is estimated to cost \$3,000,000.

The building will be designed by C. Howard Crane and Kenneth Franzheim of Chicago, New York and Houston, and will be erected at Rusk avenue and San Jacinto street. The site is 174 by 138 feet and present plans for the structure provide 18 stories, 16 of which will be used for professional men. Day and night telephone service will be maintained with a central switchboard to take care of incoming calls for tenants. Indiana limestone will be used for the exterior and the interior will be finished in marble and marble tile. High-speed elevators will be installed.

Offices in the building will be laid out with special reference to the individual needs of the tenants and special rooms will be provided for attendants, nurses, for operating, etc. There will also be instrument lavatories, lavatories, examination rooms, X-ray rooms, private wards and consultation rooms.

The Guardian Trust Co. of Houston is arranging financial details for the construction of the building.

Plan Double Super-Phosphate Plant Near Tampa.

Tampa, Fla.—Harry L. Pierce of New York and associates are promoting the United States Chemical Corporation, capitalized at \$2,350,000, for the purpose of building a double super-phosphate plant near Tampa and developing 4000 acres of phosphate lands at Dover, Sidney and in the vicinity of Plant City.

It is declared that the merit of double super-phosphate is already well established in the minds of fertilizer manufacturers, growers and consumers and that the supply is inadequate to meet the present demand. It is expected that the Tampa plant will develop a large export trade.

Peter S. Gilchrist, president of the Chemical Construction Co. of Charlotte, N. C., will act as chairman of the board for the new company, and William Schneider, president of the Bank of Plant City, will serve on the board of directors. Judge James F. Glen of Tampa is the attorney of the company. Executive offices are being established in the Krause Building, this city.

Replying to a request of the MANUFACTURERS RECORD for information relative to the plant, Mr. Gilchrist wires that details are not definitely decided.

Alabama Power Company Building High Tension Line—Will Expend Over \$1,000,000.

Birmingham, Ala.—Construction has been started by the Alabama Power Co. on a new high tension transmission power line from the Coosa River to Opelika which will provide service for a number of towns in East Alabama. The enterprise will involve an expenditure of more than \$1,000,000. A primary sub-station, similar to the largest now operated by the company, will be built at New Aubery on the outskirts of Opelika and at this station the current will be transformed and transmitted into the company's 44,000-volt lines, one of which extends to Lafayette and Roanoke, another to Auburn, Notasulga and Tuskegee and a third to Waverly, Camp Hill, Dadeville and Alexander City.

The new line will be of 110,000 volt pressure and will be of the H-frame type, bringing power a distance of more than 70 miles. It is stated that the company will eventually extend a line to Lanett.

Giant Pantographs to Be Employed in Cutting Memorial on Face of Stone Mountain, Georgia.

Atlanta, Ga., June 9—[Special.]—The accompanying drawing shows one of the gigantic pantographs which will soon be mounted on Stone Mountain for the purpose of carving the Confederate Memorial there.

In the center appears a steel truss, 100 feet long, which is anchored on the precipice and at right angles to it, being supported by an immense steel cable, running from the outside end of the truss to a supporting frame, and from thence far up the mountain where it is securely anchored.

There will be a row of these trusses, extending along the side of the mountain like brackets on a wall. Along the tops of the trusses will run a track, carrying a travelling crane for the purpose of transporting men and tools, and carrying

The pantograph can be raised or lowered by means of cables running around a drum at the top of the inverted tower. From top to bottom, the pantograph will have a vertical working radius of 200 feet.

In addition to its vertical and lateral radius, the pantograph will have a horizontal radius at right angles to the precipice by means of an ingenious turn-table at the top of the inverted tower. On this turn-table the platform can be swung around in a half revolution if necessary, thus drawing it away from the face of the cliff any desired distance.

These three movements will enable the platform to be shifted in all three directions—up or down, to the right or left, and in or out.

All operations will be electrical, and one man on the platform will control them with switches. On the platform will be an electrically driven air compressor, for operating the pneumatic drills.

This battery of drills, ten or twelve in number, will have a cutting capacity per hour equivalent to a slot one inch wide, twelve inches deep, and sixteen feet long.

Engineers claim that when work is actually started on the mountain, it will be a more remarkable spectacle than the work of digging the Panama Canal, and predict that thousands of visitors will come to see the work alone.

Magnitude of the Natural Gas Industry.

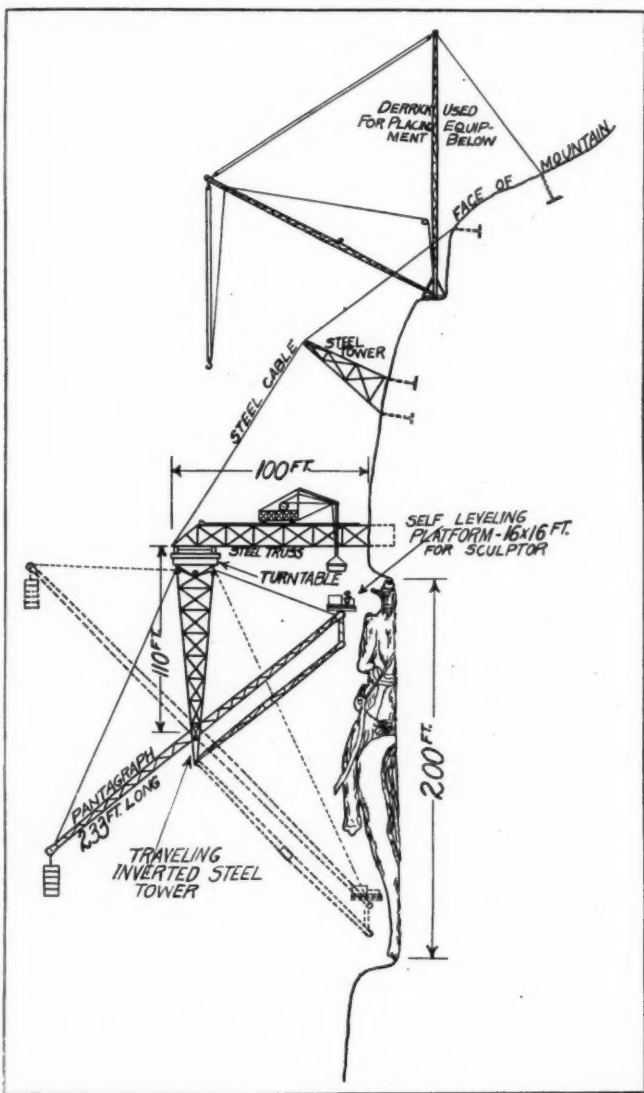
More than 2,600,000 domestic consumers and about 21,000 industrial or commercial consumers use natural gas as fuel, reports the Geological Survey. To supply these customers there is produced annually in the United States about 700,000,000,000 cubic feet of natural gas which is more than half of all the gaseous fuel used for heat, light and power in the country.

In its latest bulletin, "Natural Gas, 1919-1921," the Geological Survey states that during this period there have been important developments in the production of natural gas in the Monroe field in Louisiana, the McKeesport field in Pennsylvania, and certain areas in California, Oklahoma, Texas and Wyoming.

Natural gas has been produced in the United States for about 60 years, with almost continuous growth in quantity and value, but the industry, it is stated, has now probably reached its peak, for during the last six years there has been little increase in production and in two of these years there has been a decrease.

No reliable figures are available, states the report, to show either the quantity or the value of the natural gas produced annually prior to 1898, but rough estimates of the value of the gas as measured by the quantity of coal, wood, or other fuel which it has replaced indicate that in the period 1885 to 1897, inclusive, from \$5,000,000 to \$20,000,000 worth of gas was sold each year. In 1920, the market value of the gas was about \$200,000,000. In 1921, because of decreased production the value of the gas marketed dropped to \$175,000,000.

According to reports on the Monroe (La.) gas field, at the beginning of 1921 there were 65 wells considered to be in condition to supply gas, but owing to lack of markets only 36 of these were supplying gas to commercial consumers. It is estimated that the Monroe field probably has a greater potential capacity than any other known gas field in the United States. The field is estimated to contain 4,750,000,000,000 cubic feet of gas, or enough to supply 150,000,000 cubic feet a day for 86 years. Investigations conducted by the Bureau of Mines and the Louisiana Conservation Commission, however, indicate that although the potential supply of gas in this field is very great, the field is already being drawn on at an alarming rate, and every effort is being made to reduce the waste to a minimum and to seek a market for the



carrying away stone as it is cut. Along the bottom will run another track, carrying an inverted steel tower 110 feet long. This tower will be mounted on suspension wheels and a turntable, enabling it to move along the face of the cliff and at the same time swing in any direction.

At the bottom of this inverted tower will be hinged an immense pantograph, 233 feet long. On the end of the pantograph nearest the face of the cliff will be mounted a self-levelling platform, 16 feet square, on which stone cutters will work with pneumatic drills carving the figures. On the other end will be hung a counter-weight to balance the load.

gas wherever possible. The construction of pipe lines to a number of large cities, such as New Orleans, was reported as being contemplated in 1921.

In Arkansas the chief source of natural gas is the El Dorado field, in the Southern part of the State. Although this is primarily an oil field, large quantities of gas have been discovered and without question this will be of considerable commercial importance as a gas field in the future. The chief drawback to the success of this gas field, as to that of the Monroe field, is the distance from a ready market for the gas.

A large part of the natural gas development in Oklahoma has been connected with the exploitation of oil fields. The extension of older fields and the search for new fields are constantly going on and have been stimulated by the gas shortage in Oklahoma in the last few winters, but no large gas fields have been discovered recently. Much attention has been centered on the extension of pipe lines in order to supply the many towns demanding natural gas. Many plants for the recovery of gasoline from natural gas have also been constructed.

The Amarillo field, in Potter County, in the northwestern part of Texas, is believed to contain a considerable supply of natural gas. The first well was sunk in 1918, but the field did not become a commercial producer until 1919. The Three Rivers field, in Live Oak County, has also been recently developed. Although a small field it now supplies gas to the city of San Antonio.

The development of natural gas in West Virginia in the last few years has been confined chiefly to extension of

the present fields. No notable new supply of gas has been brought in.

In the accompanying table the quantity and value of the natural gas marketed and consumed, by States, and the total for the South, the rest of the country, and the United States are given.

The two principal byproducts of natural gas are natural gas gasoline and carbon black. The quantity of natural gas gasoline produced in 1921 from 479,618,000,000 cubic feet of gas was 449,900,000 gallons, valued at \$61,815,000. The quantity and value of carbon black produced from natural gas are given in the following table for 1921.

CARBON BLACK PRODUCED FROM NATURAL GAS, 1921

States	Quantity of Gas Used	Production	
	Cubic Feet	Pounds	Value
Louisiana	32,072,000,000	31,000,000	\$2,949,000
West Virginia	15,476,000,000	25,100,000	2,204,000
Kentucky	1,519,000,000	2,700,000	216,000
Oklahoma
Pennsylvania	629,000,000	600,000	39,000
Wyoming	869,000,000	400,000	38,000
Total	50,565,000,000	59,800,000	\$5,446,000

Another product from the treatment of natural gas that has attracted attention during the last few years is helium. This rare gas is the only non-inflammable gas that is lighter than air. Such a gas is greatly needed to prevent recurrence of the disastrous accidents of explosion and fire to balloons and similar craft. Helium has been separated from natural gas only at three plants in Texas, all owned by the Government. Thus far only a few million cubic feet has been isolated.

QUANTITY AND VALUE NATURAL GAS MARKETING AND CONSUMED, 1921

States	Gas Produced and Marketed 1921		Gas Consumed 1921	
	Quantity Cubic Feet	Value at Point of Consumption	Quantity Cubic Feet	Value at Point of Consumption
Arkansas	4,260,000,000	\$ 984,000	10,637,000,000	\$ 2,451,000
Kentucky	4,820,000,000	1,597,000	13,667,000,000	4,526,000
Louisiana	58,004,000,000	5,460,000	53,027,000,000	3,926,000
Maryland	200,000	100	825,000,000	418,000
Missouri	4,000,000	3,000	4,467,000,000	3,463,000
Oklahoma	124,058,000,000	23,429,000	100,903,000,000	15,989,000
Tennessee	11,000,000	2,600	11,000,000	2,600
Texas	44,504,000,000	8,893,000	51,341,000,000	10,720,000
West Virginia	174,920,800,000	52,827,900	81,509,000,000	15,282,000
Total South	410,582,000,000	\$ 93,196,600	316,187,000,000	\$ 56,777,600
California	75,942,000,000	\$ 16,496,000	75,942,000,000	\$ 16,496,000
Colorado	4,000,000	1,000	4,000,000	1,000
Illinois	2,646,000,000	356,000	2,630,000,000	348,000
Indiana	1,066,000,000	547,000	2,954,000,000	1,520,000
Iowa	700,000	300	700,000	300
Kansas	15,717,000,000	7,382,000	26,172,000,000	9,602,000
Michigan	400,000	300	400,000	300
Montana	336,000,000	89,300	336,000,000	89,300
New York	6,583,000,000	2,798,000	15,541,000,000	6,596,000
North Dakota	1,000,000	400	1,000,000	400
Ohio	47,412,000,000	19,216,000	106,051,000,000	43,221,000
Oregon	200,000	100	200,000	100
Pennsylvania	86,144,000,000	32,815,000	100,615,000,000	38,246,000
South Dakota	9,700,000	4,000	9,700,000	4,000
Wyoming	15,608,000,000	1,715,000	15,608,000,000	1,715,000
Total Outside South	251,470,000,000	\$ 81,420,400	345,865,000,000	\$17,839,400
Total United States	662,052,000,000	\$174,617,000	662,052,000,000	\$174,617,000

Texas Technological College to Be \$1,000,000 Institution.

Spur, Tex.—Created by a bill recently passed by the State Legislature, for which an appropriation of \$1,000,000 was made, the Texas Technological College will soon take definite shape. Clifford B. Jones of Spur is chairman of the Committee which will engage an architect for the buildings about July 1. Other members of the committee are Former Governor W. P. Hobby of Beaumont and John Carpenter of Dallas.

14-Story Masonic Building to Cost \$1,000,000.

Chattanooga, Tenn.—Tentative plans for a \$1,000,000 temple and office building here for the Chattanooga Masonic bodies are being considered and it is said that the George A. Fuller

Co., contractors of New York and other cities, are interested in the enterprise. The structure will be of reinforced concrete and steel, 14 stories high, the ground floor to be devoted to parking automobiles.

Will Develop Deposit in Virginia Said to Contain Gold Ore.

Mineral Va., June 7—[Special.]—New York capitalists have closed negotiations with Col. Thomas R. Marshall of Mineral for a large tract of land near here which is said to contain a deposit of rich gold ore. The Twin Vein Mining Co. will be chartered for the development of the deposit and Col. Marshall will be the superintendent in charge of operations.

Nearly all the machinery has been purchased and buildings and equipment will be placed as soon as possible, so that work may begin at an early date.

NEWS AND VIEWS FROM OUR READERS

[Publication in this department of letters from our readers does not mean that we either approve or disapprove the views expressed. We believe in a full and frank discussion of the mighty questions of the hour, for only in this way can the truth be found. Therefore we often publish letters with which we do not agree.—Editor Manufacturers Record.]

Stricter Immigration Laws Essential to Nation's Salvation.

EDW. T. BRONDAX, Cashier, Gilliam State Bank, Gilliam, La.

I am attaching hereto a clipping from the Shreveport (La.) Journal which quotes extracts from a speech delivered at Tot Springs, Ark., recently by Mr. Wade H. Ellis of Washington, D. C., to which I will ask that you give some consideration.

Mr. Ellis' utterances with regard to "the flame of hatred and anarchy" which is rife in our country today, only add to my already strong conviction that this condition is chargeable directly to the low class Europeans which have been flooding our shores for several years past.

Stricter immigration laws, to my mind, are essential at this time if we are to save our country from wreck and ruin, and such fearless and outspoken men as you, if they can be found, must fight the battle for the rank and file of pure Americans through the columns of your publications.

I am a subscriber to the MANUFACTURERS RECORD and therefore know your stand on this question of immigration, and I want to say here that you voice the sentiment of all real Americans in your fight against letting down the immigration bars. I say Americanize those we have before we take on any more.

I have never read a publication, the editorial writings of which hit the nail on the head squarer than the MANUFACTURERS RECORD. Hats off to you, and may God grant that your life and service to mankind be lengthened many, many years.

A Florida Farmer's Unfavorable View of Negro Labor.

S. H. GAITSKILL, McIntosh, Fla.

On page 88 of the MANUFACTURERS RECORD of May 3 I find a discussion of how to prevent the negro migration from the South, and the one main remedy seems to be higher wages; and this is given us by men that are supposed to know the negro.

Just now we are harvesting our early bean crop to ship north. The farmer gets up early, takes his Ford truck and goes around and gathers up all bean pickers that he can find, and takes them to his field. They are paid a fixed price per basket, and the negro fixes the price. It is now 25 cents per basket. Some negro women pick as many as twenty baskets each day. Nearly every negro gives himself or herself a task of a certain number of baskets per day, and when they get their quota picked they stop. Price has nothing to do with further work; they have made as much money as they want for that day and they quit. No matter if the afternoon is only half gone; no matter if the farmer only lacks a few more baskets to finish a carload, they stop for that day. Higher pay per basket only means fewer baskets picked. They want about so much per day and then stop work when that point is reached, and often higher wages means less accomplished.

This tendency of the negro was the start of the convict lease system. The turpentine people had all or nearly all of their work done by the piece—so much per box for chopping boxes, so much per barrel for dipping gum, etc. The negro

dipping gum set himself a task of so many barrels of gum each week, and if he got his number of barrels of gum by Thursday he dipped no more gum that week. No matter how much the boxes ran over, nor how much gum was wasted, no manner of persuasion would get him to dip and save the gum; but the leased convict could be told to "dip gum."

This applies to nearly all of our farming operations, and I am giving you these instances to show that it is not high wages altogether.

The negro loves dress and display. He will sleep on the floor in his log hut or shack, but he must have his fancy dress red necktie, before he will try to get a better house or a better bed. The negro loves change. He does not want to work at one job, nor for one man too long at a time. Very few of us keep the same labor for more than one year at a time; they change from one farm to another. Of course there are some exceptions. Some few get to feel that they are not at home except on a particular farm, but this is not the rule.

The Curse of Government Paternalism.

A. J. CONE, Raleigh, Fla.

In a recent issue of your valuable publication I read with profound interest and hearty approval, an article on the subject of the trend of the times: to wit, a Government of Paternalism, alias Bureaucracies. This should be read, and seriously accepted by every man and woman, who has a vital spark of love, or patriotism aflame in their hearts for the continuity and perpetuity of the fundamental principle of government by sovereigns, as organized and constituted by our illustrious fathers in 1776. The great masses of our people seem to be under the spell of self-imposed mesmeric sleep, in their lust for greed, graft, place and power, unmindful of the many insidious propagandas, daringly selfish and reckless which if not checked in their nefarious designs, will ere long utterly destroy democracy here in the cradle of its birth.

Likewise will be destroyed the prosperity and happiness of our people, and the exercise of their God-given birthright, free and untrammelled, as God gives light.

The greatest and most baneful menaces that confront us as a nation and people, are the medical bureaus. After 4000 years of medicine, what is the harvest? More diseases, and of more virulent type, than existed in the days of old Tutank-a-men. The little children no longer belong to their parents, but the state bureaus claim to take control, and health boards must look after their normalcy, and vivisection their little bodies, then vaccinate, suggesting to little innocent minds disease, sickness and death, and flooding the minds of parents with fear for their dear little ones, which they objectify, on the bodies of the little innocents.

So it was with the pestilence of poliomyelitis, infantile paralysis—and many were the thousands of the poor little innocent darlings taken from sorrowing mothers and fathers throughout the nation.

The Foster Foundation, H. T. Lovett, president, Huntington, W. Va., is having plans prepared by Sidney L. Day of Huntington for buildings for the Foster Home for Aged Women. Bids will be invited about July 15. The cost is estimated at \$150,000 to \$175,000.

THE IRON AND STEEL SITUATION

Remarkable Increase in Pig Iron Production—Steel Production Continues Havier Than Expected.

Pittsburgh, June 11—[Special]—Following the increase of 4 per cent in the rate of pig iron production from March to April there has been an increase of 5 per cent from April to May, making 10 per cent increase from March to May, in two months. The increase is remarkable for two reasons. In the first place, March is normally the highest month for production in the first half of the year, on account of weather conditions, but this year the weather remained cool and relatively dry in April and May. In the second place, the increase in outdoor work in the spring was expected to make labor shortage. This would be felt particularly in coke, since not much labor is required at the blast furnace, but the very high wages paid at coal mines and coke works have prevented any defections.

There was a material increase in steel production from March to April and a similar increase may be assumed for May. In other words, steel production is running much heavier than was expected, early in the year, by either sellers or buyers, when they were making sales and purchases for the present time. Deliveries of steel are therefore particularly heavy. The buyers receive more than they had reason to expect, and mills find themselves in better shape to promise early deliveries now on new business than they expected.

The condition as to production and shipments is such as would in the natural course of events make a very easy steel market. With very heavy consumption, as undoubtedly there is, production has been very heavy also, and the majority of observers probably doubt whether production is not in excess of consumption.

It would be natural, in view of what has occurred in the past five or six months, for there to be some cancellations of steel orders or requests for postponement of delivery. Yet there are no cancellations or postponements of any consequence, and the absence of such a development is testimony to the underlying strength of the steel situation, which is greater than would have been expected in view of the remarkably heavy production.

The finished steel markets are all very quiet, as to actual buying and selling, and it would be difficult if not impossible to pick out any particular finished steel product that is less active or more active than the general run. While the market is described as being very quiet, there is a considerable turnover. The mills, or most of the mills, are entering a fair volume of new business, in some cases probably more than 50 per cent of their current shipments. This business is of routine character, customers merely placing fresh orders or contracts as their former engagements become worked out. The new business helps to sustain the momentum of the steel making industry, acquired by a large volume of business having accumulated on order books.

Finished steel prices are well defined and are strictly held. There are no delivery premiums. Bars are 2.40c, shapes and plates 2.50c, wire 2.75c, nails \$3.00, black sheets 3.85c and galvanized sheets 5.00c.

There is heavy pressure on pipe mills for deliveries of merchant pipe, the supply of galvanized being particularly deficient, leading to some substitution of black. Demand for oil country goods is light.

Connellsville furnace coke shows a slightly firmer tone in the spot market, concessions below \$5.00 having disappeared, while on the other hand expectations of obtaining \$6.00 on third quarter contracts are practically gone. Rumor has it that two or three contracts have been closed at \$5.50.

Some furnaces will probably buy from month to month instead of for the whole quarter.

Foundry pig iron remains quotable at \$29, valley, but is easier in that single carloads can be had at the price and sellers admit they would like to do close figuring on an inquiry of size. Basic, on the other hand, shows a favorable development. A week ago it was thought it could easily be picked up at \$27, valley, basis, but two purchases, 2500 tons each, have been made at \$27.50. This, however, was by a furnace interest, delayed in getting into blast, and was for shipment over two or three weeks, to apply on a contract. It is possible that for later delivery \$27 or less could be done, but the market is plainly quotable at \$27.50 at present. Bessemer remains at \$29, valley.

McKeefrey furnace, Leetonia, O., has blown in and is understood to be piling foundry iron in anticipation of better demand later. Rebecca furnace, at Kittanning, making basic, has on the other hand blown out on account of light demand.

Steel Ingot Production Shows Further Increase.

Following is the monthly production of steel ingots from January, 1922, to May, 1923, as reported to the American Iron and Steel Institute, New York, by 30 companies which made 84.13 per cent of the steel ingot production in 1922.

Months	Open Hearth Gross Tons	Bessemer Gross Tons	All Other Gross Tons	Total Gross Tons
1922				
January, 1922	1,260,809	331,851	822	1,593,482
February	1,395,835	348,571	616	1,745,022
March	1,918,570	451,386	795	2,370,751
April	1,997,465	445,939	1,109	2,444,513
May	2,214,774	494,893	1,474	2,711,141
Total, 5 months	8,787,453	2,072,640	4,816	10,864,909
June	2,143,708	487,851	2,918	2,634,477
July	2,020,572	464,047	2,485	2,487,104
August	1,807,310	404,379	2,893	2,214,582
September	1,911,147	460,127	2,505	2,373,779
October	2,352,207	518,010	2,198	2,872,415
November	2,360,903	525,945	2,449	2,889,297
December	2,241,104	536,214	2,572	2,779,890
Total, 12 months	23,624,404	5,469,213	22,836	29,116,453
1923				
January, 1923	2,571,491	677,486	2,717	3,251,694
February	2,290,418	625,838	2,761	2,919,017
March	2,656,134	742,564	3,309	3,402,007
April	2,594,706	722,719	3,853	3,321,278
May	2,744,201	788,350	5,202	3,537,753
Total, 5 months	12,856,950	3,556,957	17,842	16,431,749

Production at Top Notch, Confidence Strong in Birmingham District—Numerous Fourth Quarter Inquiries.

Birmingham, Ala., June 11—[Special.]—Furnace interests in the Birmingham district in position to take on additional business for delivery during the third quarter of the year are selling in small lots right along, now and then a contract for 500 tons and more being received. Inquiries are quite numerous for pig iron for fourth quarter delivery and there is much confidence again. Southern furnace companies are loathe to give concessions in order to obtain business and the assertion is reiterated that the prices have been maintained right along, \$27 per ton, No. 2 foundry, being the price for iron for future delivery. There is no inclination to cut prices in order to get additional business and the belief is yet strong that in the next few days the buying will start for the fourth quarter delivery.

During the past two weeks the small-lot business has aggregated well for third quarter delivery, so well in fact that positive announcement is made that there is reasonable expectation for strong production right along and that furnaces needing repairing will have to be rushed through

when once blown out. Every effort will be made to delay repairs until the very last minute.

Production continues at the peak and the surplus iron is not being added to in the least; the basic iron tonnage on the yards in this state is the principal iron. This tonnage is to be maintained, as the steel production must be kept strong to meet demands. All finishing departments at both the Ensley plant of the Tennessee Coal, Iron & Railroad Company and at the Alabama City plant of the Gulf States Steel Company are at almost full speed and there is steady shipment of the various products, rail, wire, nails, etc. Consideration also must be given to the needs of the structural steel fabricators and car works of the district, besides other plants using steel in their daily operation.

Production of pig iron is being kept as near maximum as possible. Shipments and the melt in the home territory are not only absorbing the production right along but steadily wiping off the surplus iron on furnace yards in this territory. This condition will be necessary for 90 days at least and in the meantime, it is already to be discerned, there will be further business. The sales recently are for fill-in purposes only to a certain extent.

The cast iron pipe business is not altogether nil although the activity is nothing like it was several months ago. Consumers have become a little restless and are asking for delivery. A number of small lot lettings have come in late. The United States Cast Iron Pipe and Foundry Company, with four big plants in the Southern territory, three of them in Alabama, recently took on an order for 5000 tons of pipe for Flint, Mich.

The Warrior river barge line discussion will be on this week again, Col. T. Q. Ashburn, chief of inland waterways of the government, to confer with representatives of Mobile, Demopolis, Tuscaloosa, Cordova and Birmingham as to the future operations of the barge line. It is believed that agreements can be arrived at which will have the effect of ultimately lifting the embargoes at Demopolis, Tuscaloosa and Cordova, and that some understanding can be reached as to a fair division of the freight rates with the railroads. Considerable traffic, mainly of the Birmingham district, in iron and steel manufactured products, is being handled down the river while much bunker and other coal is also handled through Cordova and Birmingham. The Tennessee Coal, Iron & Railroad Company is beginning to receive its steel barges manufactured at Mobile, with the steel fabricated in the Birmingham district.

Pig iron stocks on yards in Alabama are down to 34,000 tons, including more than 10,000 tons of basic iron. The reduction during the month of May was more than 5000 tons.

The labor shortage is still being felt. Throughout the state steps are being taken to prevent further drafting of labor, all kinds, from this state.

Coal production in Alabama is still off, the weekly output being down to 366,000 tons. Steam coal demand is lagging. The coke market continues strong, all by-product and bee-hive ovens in shape producing. Demand is good for coke and no deflection in prices is being recorded. Foundry coke is bringing \$8.50 to \$9 and even \$9.50, in small lots and between \$8 and \$9 on contracts.

The scrap iron and steel market is weakening and lower prices are admitted. Heavy melting steel holds the same prices as heretofore given but the purchases are principally by the Gulf States Steel Company.

Cement production is showing steady increase. The Phoenix Portland Cement Company is now producing 4000 barrels of cement daily and within the next two weeks will increase this output to 5000 barrels. The Atlas Portland Cement Company plant at Leeds, in the northeastern part of the county is producing more than 5000 barrels of cement daily.

The new plant of the Lehigh Company will be ready for operation by August 1.

Pig iron and iron and steel scrap quotations follow:

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$27.00; No. 2 foundry, 2.25 to 2.75 per cent silicon, \$27.50; iron of 2.75 to 3.25 per cent silicon, \$28.00; iron of 3.25 to 3.75 per cent silicon, \$28.50; iron of 3.75 to 4.25 per cent silicon, \$29.00; charcoal iron, f. o. b. furnaces, \$34.00 to \$35.00.

OLD MATERIAL

Old steel axles	24.00	to	\$25.00
Old iron axles	27.50	to	29.00
Old steel rails	18.00	to	20.00
Heavy melting steel	17.50	to	18.00
No. 1 R. R. wrought	18.00	to	19.00
No. 1 cast	23.00	to	25.00
Stove plate	19.00	to	20.00
Old car wheels	22.00	to	23.00
Old tramcar wheels	23.00	to	24.00
Machine shop turnings	13.00	to	14.00
Cast iron borings	13.00	to	14.00
Cast iron borings (Chem.)	16.50	to	17.00

RAILROADS

To Secure Co-Operation of Shippers and Railroads.

The Car Service Division of the American Railway Association, Washington, D. C., says: "For the purpose of bringing about the fullest measure of co-operation between the shippers and the railroads of the country, and give the shipping public a direct voice in the activities of the car service division on all matters of common interest, regional advisory boards, composed entirely of shippers, and selected by the shipping public itself, are being organized in various parts of the country by the American Railway Association. These boards will work in conjunction with the district manager of the car service division, together with representatives of the railroads in the various districts. Regional advisory boards have already been organized in five districts as follows: Southeastern, district manager at Birmingham, Ala.; Southwestern, district manager at Dallas, Tex.; Trans-Missouri-Kansas, district manager at St. Louis; Central-Western, district manager at St. Louis; Northwestern, district manager at Minneapolis. Similar boards will be named very shortly in territories served by branch offices of the car service division already located in Toledo, Cincinnati, Chicago and New York."

The purposes of these organizations are to form a common meeting ground for shippers, local railroads, and the carriers as a whole to better mutual understanding of local and general transportation requirements, to analyze transportation needs in each territory and to assist in anticipating car requirements. Production, markets, distribution and trade channels will be studied to effect improvements in trade practice as related to transportation and to promote more even distribution of commodities. Along with this will be pursued efforts to improve car and operating efficiency on the part of the railroads, which will also work to obtain better understanding of shippers' transportation needs and to co-operate with them, also to educate shippers to observe rules governing car handling, etc.

Company Incorporated to Buy a Railroad.

The Scott's Run Railway Co., capital \$1,000,000, has been incorporated at Morgantown, W. Va., for the purpose of buying and taking over for operation the Morgantown & Wheeling Railroad when it is offered on July 6 at receivership sale. This railroad affords transportation facilities to the rich Scott's Run coal field and it has 27 miles of line from Morgantown to Blacksville and Brave. Eventually it is to be extended to Wheeling. The incorporators of the new company include H. C. Nutt, of Pittsburgh, who is president of the Monongahela Railroad Co., and Albert Ward of the same city, counsel for that road, besides Frank Cox, George C. Baker and

Stanley R. Cox, of Morgantown. It is stated that the Monongahela Railroad Co. recently bought \$500,000 of bonds that are a lien on the Morgantown & Wheeling Railway. An effort was made recently by stockholders, it is reported, including J. V. Thompson, of Uniontown, Pa., to prevent the sale of the road, but as the company could not meet its outstanding debts the sale was ordered.

Railroads Should Agree on Joint Facility Uses.

S. Davies Warfield, of Baltimore, president of the National Association of Owners of Railroad Securities, speaking at the fourth annual convention of the National Association of Mutual Savings Banks held at Buffalo last week, asked that a committee be appointed to co-operate with his Association on the subject of railroad valuation. "Do not forget" said he, "that the proposals made before Congress by that Association, leading to the inclusion in the Railroad Act of the provisions for the equitable adjustment of railroad rates, have their foundation in the true value of the properties, and if pulled down through an inequitable readjustment of values, your whole credit and security structure falls with it. Not only will these valuations form the bases for the acquisition of the securities of the properties to be consolidated into the few large systems, but they will also be the bases for all future railroad rates."

Although not in accord with certain radical views on this subject, Mr. Warfield also said that if newspaper reports of railroad executives' criticism were correct, one might well ask whether the railroads themselves had agreed on any constructive plan for railroad valuation. "While able argument," continued Mr. Warfield, "may have been made by representatives of individual railroads, they express wholly divergent views as to the bases to be observed by the Interstate Commerce Commission in determining values. So the Commission is without any agreed bases and conclusions representing the collective thought of the railroads of the country."

Referring to Henry Ford's suggestion that the railroads should be operated under one central head and to the other plan to combine them into fifteen large systems, Mr. Warfield said he should greatly dislike to see either adopted, because either meant government operation. "If the railroads," he said, "do not ask Congress to provide them with an agency to produce the desired results, managed by their own people, one of the two other proposals is inevitable." His Association is on record in favor of permissive consolidations, but not in favor of the attempt to enforce the great consolidations proposed. "Any plan to do so," he said, "would take from five to ten years to complete and meanwhile it would be best for all concerned if the railroads at once agree among themselves on a comprehensive plan for joint facility uses."

Freight Loadings Continue to Increase.

Cars loaded with revenue freight during the week ended May 26 totaled 1,014,029 an increase of 22,232 cars as compared with the next preceding week. "This total," says the American Railway Association's car service division, "is not only by far the largest loading ever reported for any one week at this season of the year, but it has been surpassed only twice before for any week in any year, both times in the fall, when traffic is always heaviest."

First Contract Let on Okeechobee-Miami Extension.

The Florida East Coast Railway Co. has let a contract to M. J. Cole of Jacksonville to build the first section of its extension from Lake Okeechobee towards Miami, Fla. The contract covers approximately 20 miles of single track roadbed extending from Okeechobee City southward through Okeechobee and Palm Beach counties. The roadbed will in general consist of embankments averaging about 2½ feet in height, made from side borrow, and there will be a few light

cuts on the line. Necessary openings will be provided by trestles constructed of creosoted material and by reinforced concrete culverts. The work is under the general supervision of H. N. Rodenbaugh, general manager of the railway, St. Augustine, Fla.

As previously noted this extension, when completed to Miami, will be about 122 miles long, with a branch of 11 miles, and according to estimates it is expected to complete the entire line by January 1, 1928. When that is done the railway will have an alternate route of about 264 miles from New Smyrna via Okeechobee City to Miami, the distance between New Smyrna and Miami by the main line being 240 miles. The choice of routes that will thus be made possible will be of considerable value in seasons of heavy traffic.

New Equipment, Rails, Etc.

Western Maryland Railway has been authorized by the Maryland Public Service Commission to issue \$1,500,000 of 6 per cent equipment certificates to cover the purchase of 2000 steel hopper cars.

Santa Fe System has ordered 30 Mikado locomotives from the Baldwin Locomotive Works, and 50 express refrigerator cars from the General American Car Co.

New York Central Railroad has ordered 150,000 tons of rails for this year's delivery as follows: Bethlehem Steel Co., 67,500 tons; Illinois Steel Co., 57,100 tons; Carnegie Steel Co., 13,350 tons; Inland Steel Co., 12,050 tons.

Pennsylvania Railroad has ordered 20,000 tons of rails, of which 10,000 tons will be rolled by the Carnegie Steel Co.

Tennessee Central Railroad has ordered 4 Mikado type locomotives from the American Locomotive Co.

Southern Pacific Company has ordered 13,000 tons of rails from the Tennessee Coal, Iron & Railroad Co.

Florida East Coast Railway has ordered 200 steel flat cars from the American Car & Foundry Co., 200 ventilated box cars and 10 caboose cars from the Mount Vernon Car & Manufacturing Co.

Union Terminal Co., Dallas, Tex., has ordered a six wheeled switching locomotive from the Baldwin Locomotive Works.

Class 1 Railroad Earnings in April.

Reports filed with the Interstate Commerce Commission show that the Class 1 railroads of the United States during April had a net railway operating income of \$83,197,800, or at the rate of 6½ per cent per annum on their tentative valuation. In the same month of last year their net railway operating income was \$49,970,000 or at an annual rate of return of 3.99 per cent. Operating revenues in April of this year totaled \$522,955,700, or 25 per cent more than in April of last year. Operating expenses were \$403,869,000, an increase of over 20 per cent. During the first four months of this year the Class 1 railroads had total net railway operating income of \$266,246,000, representing on an annual basis a return of 5.49 per cent as compared with 4.44 per cent during the same period of last year.

Clinchfield's Annual Report, 1922.

The income statement of the Carolina, Clinchfield & Ohio Railway Co., for the year 1922, compared with 1921 shows. Operating revenue 1922, \$7,608,602; 1921, \$7,464,112; expenses 1922, \$5,015,787; 1921, \$5,320,171; net operating income after taxes, equipment rents, etc. 1922, \$2,864,427; 1921, \$2,492,297; total income 1922, \$3,024,362; 1921, \$2,608,544; net income 1922, \$1,137,367; 1921, \$723,607.

Bond Issue Authorized.

The Baltimore & Ohio Railroad Co. has been authorized by the Maryland Public Service Commission to issue refunding and general mortgage bonds to the amount of \$3,770,000. Of this total \$1,500,000 will cover improvements already made while the remainder will be used for refunding.

GOOD ROADS AND STREETS

Reduction in Varieties of Asphalt.

In a meeting of producers and consumers of asphalt held recently at the Department of Commerce, the 88 varieties of asphalt used for paving purposes were reduced to 9, and 14 varieties used as brick and stone block fillers were cut to 4. Since 3 of the grades adopted for fillers are identical with 3 of those adopted for paving use, the actual reduction is from 102 to 10, or practically a 90 per cent elimination. One manufacturer stated to Mr. William A. Durgin, Chief of the Department of Commerce Division of Simplified Practice, "had this simplification been effected a year ago it would have saved our company over \$200,000." Durgin pointed out that there are 22 firms within the United States in this business.

This meeting was the outgrowth of a preliminary conference of producers on April 24, 1923, called at their request by the Division of Simplified Practice which is co-operating with various industries in their efforts to reduce waste by eliminating superfluous varieties. At the first meeting the producers volunteered to send to the Department statements covering their individual shipments for 1922 of various grades of asphalt, as defined by penetration limits. This was done and the summary showed that 81 per cent of their 1922 shipments in 88 varieties fell within the 9 grades included in the tentative specifications of the American Society for Testing Materials. The other 19 per cent of the total tonnage was outside these grades.

After brief discussion the above action was taken. The producers were represented by delegates from the Asphalt Association, and also by representatives from asphalt companies not members of the Association. The consumers were represented by engineers and other officials from various state and city highway departments.

The conference unanimously agreed that grades of asphalt used in construction of sheet asphalt, asphaltic concrete, and asphalt macadam pavements, and also for surface treatment should be reduced to the 9 grades having the following penetration limits:

25 to 30	50 to 60	100 to 120
30 to 40	60 to 70	120 to 150
40 to 50	85 to 100	150 to 200

In adopting these limits, it is understood that the producer will furnish asphalts with penetration equal to the mid-point in each range, a plus-and-minus tolerance from that mid-point being acceptable to all parties, but in no case shall the deviation from the mid-point exceed the limits of the grade specified.

By way of explanation, the consistency of asphalt is measured by "penetration." This means the distance a standard needle will sink into a sample of asphalt when the asphalt is maintained at 77 degrees Fahrenheit, and the needle is operated under a load of 100 grams for 5 seconds. Each "point of penetration represents the movement of the needle through 1/100 of a centimeter, or approximately 1/254 of an inch. This is the standard test of the American Society for Testing Materials, and has been adopted as a tentative American standard by the American Engineering Standards Committee.

The conference also unanimously adopted 4 grades of joint filler for various types of construction—30-50, 50-60, 60-70, and 85-100. The first is used primarily for brick pavements and does not require admixture with sand, whereas the latter three, which are identical with three of the grades adopted for asphalt pavement construction, are those which would ordinarily be used in admixture with sand to produce an asphalt grout.

This gives a total of 10 grades by penetration limits for asphalt used in construction and treatment of roads and pave-

ments. It is the hope and expectation of all present that this reduction in variety will bring notable economies in the production, sale, and use of asphalt, all of which in due time means to the taxpayer "more miles of highway per dollar spent."

It was further agreed that this elimination should become effective in all deliveries of these materials made after January 1, 1924.

AN IMPORTANT INDUSTRIAL HIGHWAY.

Manufacturers Avenue, Between Gastonia and Charlotte, a City Street 23 Miles Long, Stretching Out Into the Country—Part of Highway Crossing Entire State.

Charlotte, N. C., June 8.—A discussion started in The Observer about a proper name for the highway connecting Charlotte and Gastonia, has brought out the interesting fact that North Carolina has perhaps the most important industrial road in the country.

The highway between Gastonia and Charlotte is a hard surface of the black-top variety, with concrete shoulders, the same character of construction as the city streets of which it is in fact a continuation. The road is 23 miles in length, and cotton mills and industrial plants not only follow it a mile or two out of each town, but it runs through the manufacturing centers of Belmont, McAdenville, Lowell and Renlo, each a busy nest of industrial activities. Out in the country between, industrial plants have sprung up, so that it has become almost a continuous street of factories. Travelers over this road by night are never out of sight of a light. The Observer had suggested that it be given the distinctive name of Manufacturers' Avenue, and the people of the Gastonia end received that suggestion with hearty approval. Twelve miles out from Charlotte the highway passes over the Catawba on a concrete bridge, of ornamental architectural features—all bridge and no approach, nearly half a mile long—built by the Counties of Gaston and Mecklenburg, and further on it spans the South Fork, at McAdenville, at a spot of great scenic beauty, with Spencer mountain in the distance and a rocky-bedded river reminding one of the James at Richmond. So, it is not only an industrial but a scenic highway.

But the discussion brought out the fact that the section between Charlotte and Gastonia is but a small part of a highway that should become famed over the country. This highway goes entirely across the State, from Grover, at the South Carolina line, to Stokesland, at the Virginia line, a distance of 127 miles. There is an average of one cotton mill for each 1.38 miles of the distance traversed by this road. What is more, the entire stretch is hard-surfaced—it is a city street across the State—and there is not another highway of the same character in the nation. It is probable that in length and in number of industries that line it, this highway is without parallel in the world.

This is but one of the many main lines of highway across the State of North Carolina. Of these, ten traverse it from north to south, and six from east to west, the longer of which, reaching from Beaufort, on the sea, to Murphy, in the mountains, being 548 miles in length.

The Campbell County Highway Commission, Jacksboro, Tenn., has awarded contract to J. F. Marcum, of Fountain City, Knoxville, to build 8 miles of road from Red Ash to Pioneer. The project will cost \$150,000 and the work will consist of grading and laying penetration macadam. D. C. Rogers, of La Follette, is the engineer in charge.

North Carolina Invites Bids on 192 Miles—Proposals Received Until June 27.

Raleigh, N. C., June 7—[Special.]—Contracts will be awarded by the North Carolina State Highway Commission on June 27, for a number of road projects embracing a total of more than 192 miles. Awards will also be made for a bridge over Cape Fear River in Bladen County, and an over-head crossing in Burke County. The road construction includes the following:

In Halifax County, 18.7 miles; Hertford-Bertie counties, 6.4 miles; Hyde County, 4.4 miles; Northampton County, 16.8 miles; Pitt-Greene and Wilson counties, 20.5 miles; Craven County, 10.4 miles; Wilson County, 8.6 miles, and Harnett County, 3.8 miles.

There will be constructed 4.3 miles in Alamance County, in Person County, 11.6 miles; Guilford County, 4.3 miles; Montgomery County, 3.5 miles; Anson County, 3.8 miles; Rowan County, 3.5 miles; Alleghany County, 6.4 miles; Stokes County, 8.6 miles; Avery County, 5.7 miles; Burke County, 4.9 miles; Henderson County, 15.8 miles; McDowell-Yancey Counties, 19 miles; Graham County, 2.9 miles, and Macon County, 8.3 miles.

Over \$1,400,000 in Kentucky Road Contracts.

Frankfort, Ky., June 11—[Special.]—The State Highway Commission has awarded contracts for a number of road projects in various parts of the state, embracing more than 78 miles, and costing nearly \$1,440,000. These include 9,360 miles in Christian County, for which McQuarry Bros., of Princeton, Ky., were awarded contract at \$192,684, for gravel construction, while Breslin & Durrett of Louisville, received contract at \$12,122, for oil surface treatment; 4,284 miles in Clinton County, Moynahan & Turner, Lexington, at \$58,653, for waterbound macadam.

For 13.1 miles in Hopkins County, N. E. Stone & Co., Madisonville, Ky., were awarded contract at \$255,094; 12.140 miles in Henry Trimble and Carroll Counties, Clark County Construction Co., Winchester, at \$292,735 for waterbound macadam, and R. B. Tyler Co., Louisville, at \$14,921, for oil surface treatment; 9,352 miles in Kenton and Boone Counties, John Wroe, Dayton, Ohio, at \$316,788 for reinforced concrete; 7 miles in Mason County, Bates & Paynter, Danville, Ky., at \$47,511 for reconstruction; 6,811 miles in Pike County, N. K. Sneed Co. Huntington, W. Va., at \$123,092, and for 16 miles in Union County, W. W. Carter, Clay, Ky., at \$123,454.

Maryland Lets Contracts for 7.5 Miles.

Contracts have been awarded by the Maryland State Roads Commission for building 7.5 miles of roads, embracing several counties, at a total cost of \$118,507. These projects include 3 miles of concrete shoulders in Baltimore County, A. C. Knight, of Baltimore, contractor at \$30,175; 2 miles of concrete shoulders in Montgomery County, Corsoon & Gruman, of Washington, D. C., contractors, at \$22,507; 1 mile of road in Montgomery County, M. J. Grove Lime Co., Frederick, Md., contractor at \$30,160, and 1.5 miles in Worcester County, for which the Hannon-Burrough & Co., of Salisbury, Md., received contract at \$35,605.

Kentucky to Open Bids on 18 Miles of Roads.

Frankfort, Ky., June 7—[Special.]—Sealed bids will be received by the State Highway Commission, at the office of Joe S. Boggs, State Highway Engineer, for the improvement of 18.845 miles of roads in 3 counties as follows: Jessamine County, 4.995 miles; Pike County, 6.083 miles, and in Powell County, 7.767 miles. Instructions to bidders, forms of proposals and specifications may be secured at the office of Mr. Boggs.

States Urged to Expedite Building of Main Roads.

The principal highways of every state should be constructed as rapidly as the available supply of labor and materials permits; they should be constructed and maintained by the state highway departments and should be paid for by the people of the states as a whole, according to Thomas H. MacDonald, chief of the Bureau of Public Roads.

Mr. MacDonald says actual road tests have shown that the annual saving in gasoline alone on the more important roads will, in some instances, more than pay the yearly cost of such roads, including a proper distribution of the first cost. The public pays for good roads whether it builds them or not. This fact alone, without regard to the increased need for highway transportation to supplement the railroads, the saving in wear and tear on vehicles, and the social, recreational, and educational advantages of good roads in rural sections, Mr. MacDonald states, should cause the states to proceed with the improvement of their main roads as fast as physical limitations permit.

The burden of building and maintaining the main state roads must be shouldered by the state, in Mr. MacDonald opinion. It is not fair to expect a county to provide for the construction and upkeep of the main state roads within its borders when, as is generally the case, the traffic on such roads comes in greater part from outside of the county. The attempt to finance the improvement of such roads has been the means of bringing a good many counties to the point where they are not able properly to provide for the feeder roads, which should be their principal concern, because their credit is tied up in a relatively short mileage of high-priced road which should have been built with state funds.

Street Improvement Contracts Total \$175,000.

Geneva, Ala.—Contracts have been awarded by the town council of Geneva for street improvements to cost about \$175,000. An award was made to the Southern Roads Co. of Birmingham for about one mile of street paving on commerce and Town streets, the paving to be of bitulithic on a concrete base. These streets are 100 feet wide.

A contract has also been awarded to J. P. Carter of Geneva for building five miles of sidewalks, gutters and curbing on Commerce, North Commerce, Church and Live Oak streets.

\$182,000 for Two Roads in Jefferson County.

Dandridge, Tenn.—A total of \$182,000, was apportioned for the construction of two roads in Jefferson County at a called meeting of the county court recently. The apportionment includes \$90,000 to complete the Straw Plains-Jefferson City road to the Hamblen County line and \$92,000 for the Straw Plains-Dandridge and Newport road via Piedmont.

Low Bid of \$468,000 for Viaduct in St. Louis.

St. Louis, Mo.—Bids for the construction of the Fourteenth street viaduct in this city have been opened by the Board of Public Service, and F. A. Stiers is the low bidder at \$468,940. The bids are for the bridge structure alone and do not include walks, roadways and railings. The bridge proper is 1140 feet, approaches 370 feet each, and width of bridge 80 feet.

Good Roads Notes.

The Washington County Commissioners, Bartlesville, Okla., will expend \$700,000 to build 40 miles of concrete roads.

The Lawrence Construction Co. of Jackson, Miss., has been awarded contract for the construction of 11 miles of hard surface road near Dyersburg, Tenn., by the Dyer County Pike Commission. The cost will be about \$100,000.

TEXTILE

Construction Progress on Big \$5,000,000 Plant of Pacific Mills at Lyman—Concrete Foundations Nearing Completion.

Spartanburg, S. C.—Concrete foundations of the big cotton mill and bleachery being erected at Lyman near this city for the Pacific Mills of Boston at a cost of about \$5,000,000, are nearing completion. The site of the plant embraces 800 acres on the Middle Tiger river on the Piedmont & Northern Electric Railway, the highway between Spartanburg and Greenville passing through the property.

As previously detailed in the MANUFACTURERS RECORD, the mill buildings will consist of a 4-story structure, 136 by 290 feet, capable of housing 36,000 spindles; 2-story and basement bleachery building, 196 by 652 feet; 5-story warehouse, 75 by 103 feet, and a boiler and pumphouse 75 by 68 feet. Near the boiler plant there will be a trestle 250 feet long for unloading coal and at the dam on the Tiger river there will be a filter station where water will be clarified and then pumped into the reservoir at the bleachery.

Two miles of railway track have been built through the property—spurs from the Southern Railway and from the Piedmont & Northern—in addition to a section of spur which is a joint track between the two lines. All rails are of 85 pounds.

The Minter Homes Corporation of Greenville is building 305 dwellings of four, five and six rooms, for the white operatives and will also build a number for colored employees which will be removed from the white section. Facilities for operatives will include parks, community building, Y. M. C. A. and Y. W. C. A. buildings, club rooms, reading rooms, library, swimming pools, etc. The company is also considering operating a dairy farm.

Parklap, Inc. of New York has the general contract and the McClintic-Marshall Construction Co. of Pittsburgh has contract for the structural steel frame. The Walker Electric & Plumbing Co. of Atlanta is the contractor for wiring and electrical fixtures.

Lockwood, Greene & Co. of Boston and Atlanta, are the engineers and will award all contracts. Ira U. Kauffman is the resident engineer.

Millis Cotton Mills Incorporate With \$300,000 Capital.

High Point, N. C.—The Millis Cotton Mills, Inc., of High Point, capitalized at \$300,000, has been granted a charter of incorporation. A total of \$70,000 of the capital stock has been subscribed. Among the stockholders of the enterprise are H. A. Millis, R. R. Rogers, C. E. Hayworth and J. W. Kaner.

Will Build Filter and Clear Water Plant.

Lanett, Ala.—The Lanett Bleachery & Dye Works have awarded contract to the West Point Iron Works, West Point, Ga., to build a filter and clear water plant here at a cost of \$75,000. Robert & Co., of Atlanta, are the engineers. The clear water well will receive a coat of Gunite applied by the Cement Gun Construction Co., of Chicago.

Palmetto Demask Mills Sold.

Gaffney, S. C.—The purchase of the interests of H. D. Wheat and H. C. Wheat in the Palmetto Damask Mills at Gaffney by Dr. W. K. Gunter and associates has been announced. The mills are capitalized at \$75,000 and for the past three years Dr. Gunter has been manager and superintendent.

Opelika Cotton Mills Purchased for \$1,000,000—New Company Plans Improvements.

Referring to the purchase of the Opelika Cotton Mills at a cost of about \$1,000,000, as mentioned in these columns last week, Robert & Co., Inc., Atlanta, write the MANUFACTURERS RECORD:

"The Opelika Cotton Mills were purchased by the Opelika Manufacturing Co. a new corporation headed by George H. Lanier of West Point, Ga., L. W. Robert, Jr. of Atlanta and W. E. Davis of Opelika, together with a number of other West Point mill owners and operators. John V. Denson, prominent attorney of Opelika will act as president of the new corporation and W. S. Freeman, formerly general manager of the Samoset Mills of Talladega, Ala., will be treasurer and general manager. Lafayette Lanier of West Point will be vice president.

"The board of directors include, besides the officers of the company, L. W. Robert, Jr.; J. J. Banks, W. E. Davis and M. M. McCall, all of Opelika; George H. Lanier, R. C. Freeman, R. B. Dixon, H. R. Stephenson and W. C. Lanier, all of West Point.

"The present plant represents 18,000 spindles on fine yarns and the new corporation considers immediately making additional developments to this plant. The purchase consideration represents approximately \$1,000,000 which takes over all the physical assets, property and accounts of the old company."

Cotton by Airplane from Georgia to Massachusetts.

Augusta, Ga.—For the purpose of demonstrating the feasibility of carrying freight by air, two United States army airplanes left this city at 4.25 o'clock Monday morning, June 4, carrying two bales of cotton, and reached New Bedford, Mass. at 4.39 the afternoon of the same day. The cotton was immediately taken to the Wamsutta New Bedford mills where it was manufactured into shriners' aprons and sent to Washington by airplane on Tuesday for the Shriners' Convention.

In addition to the cotton, the shipment also included several baskets of peaches which were intended for President Harding and several others. The planes were piloted by Lieutenant Harold Lee George and Lieutenant C. W. Graybeal. Details of the flight were handled by Capt. R. B. Hough.

Cotton Movement.

In his report on the movement of cotton, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the ten months ending with the close of May was 10,410,079 bales, an increase over the same period last year of 321,102 bales. The exports were 4,253,041 bales, a decrease of 967,302 bales. The takings were, by Northern spinners, 2,144,506 bales, a decrease of 112,785 bales; by Southern spinners, 4,067,807 bales, an increase of 646,799 bales.

Plan \$500,000 Cotton Mill at El Paso.

El Paso, Tex., June 11—[Special.]—Winchester Cooley, vice-president of the City National Bank of El Paso, and associates are preparing to build a cotton mill here to cost \$500,000. It is stated that the raw material for the mill may be obtained in this immediate section. Complete data in regard to the proposed plant has been received and it is expected that the organization of the company will be accomplished soon.

The Trenton Cotton Mills of Gastonia, N. C. have amended their charter increasing the capital stock from \$350,000 to \$500,000.

LUMBER AND BUILDING MATERIALS

Decline in Lumber Movement Checked.

Washington, D. C., June 7.—Reports received today by the National Lumber Manufacturers Association from the various regional lumber manufacturing associations, seem to indicate that the decline in the lumber movement, which has continued for sometime, has been checked.

Although the total reports of production, shipments and new orders show small recessions from those of last week, these are probably more than offset by the fact that 39 fewer mills reported in time for the present weekly compilation. As compared with the same week last year production and shipments show substantial gains, and orders a decrease of about 11 per cent.

All the reporting mills give shipments as 96 per cent, and orders as 74 per cent of production. Southern pine mills by themselves show similar percentages of 102 and 68 respectively, and the West Coast mills 113 and 96. All but 32 of the mills represented in the compilation have established normal production figures for the week, and with respect to them their actual production was 106 per cent of normal, shipments 107 and orders 82 per cent of normal.

The following table summarizes the country's lumber movement as represented by mills affiliated with the National Association:

	Past Week	Corresponding Week 1922	Preceding Week 1923 (Revised)
Mills	388	290	427
Production	272,319,837	231,094,338	285,290,991
Shipments	261,332,282	239,641,801	265,949,487
Orders	200,701,032	228,659,897	209,741,998

For the first 22 weeks of 1923 and the corresponding period of 1922, the lumber movement by association mills is as follows:

	Production	Shipments	Orders
1923	5,240,206,937	5,685,226,723	5,742,306,525
1922	4,296,022,595	4,405,941,852	4,831,310,012
1923 Increase	944,184,342	1,279,284,871	910,996,513

The North Carolina Pine Association reports from Norfolk, Va., that lumber producers in Virginia and North and South Carolina are not running to maximum capacity because of lack of labor and because they are lengthening and improving main and branch line logging railroads. In Georgia and Alabama production has been seriously interfered with during

the past four weeks by almost incessant rain; and the roofer mills in those two states have not been running much over 50 per cent capacity. Except for occasional shortage of empty cars, the railroad situation is described as satisfactory, and the prediction is made that unless the grain movement taxes the railroads more heavily than is now anticipated, transportation this summer will prove equal to all demands. The market is described as quite dull. As shipments for the past month have exceeded production, the mills are left with a limited assortment of grades with which to meet current business. The mills generally have comfortably full order files and current business is about on a parity with production.

The Southern Pine Association reports from New Orleans that the favorable logging weather in its territory last week was reflected in an increase of 6.6 per cent in production, compared with the previous week. The average production per mill last week was the largest since the week ended March 2. Shipments showed a slight increase and new business declined slightly. For 133 mills unfilled orders aggregate 14,378 cars—an average of 2,302,750 feet to a mill. Orders on hand decreased 7.96 per cent during the week—the total now being 306,265,778 feet.

The West Coast Lumbermen's Association reports from Seattle that 130 mills during the past week had production 19 per cent above normal, new business 4 per cent below production and shipments 18 per cent above new business. Of the new business 41 per cent was for future water delivery, amounting to 41,334,910 feet, of which 31,984,410 was for domestic cargo delivery, and 9,350,500 was for export. New rail business amounted to 1774 cars. Forty-two per cent of the week's shipments moved by water, amounting to 49,883,387 feet, of which 38,727,271 moved by water, amounting to coastwise and intercoastal; and 11,156,116 went overseas. Rail shipments totaled 2101 cars. Unfilled domestic cargo orders now total 165,124,687 feet and unfilled export orders are 93,775,187 feet, while unfilled rail trade orders amount to 7415 cars.

From San Francisco, the California White and Sugar Pine Manufacturers Association reports labor and car supply normal, log supply ample, weather fair, stocks low and the demand well distributed.

LUMBER MOVEMENT FOR TWENTY-TWO WEEKS, AND FOR THE WEEK ENDING JUNE 2.

	Production		Shipments		Orders	
	1923	1922	1923	1922	1923	1922
Southern Pine Association:						
Total	1,705,540,382	1,553,967,326	1,839,995,817	1,594,285,119	1,769,917,243	1,735,908,635
Week (133 mills)	78,724,623	76,143,282	80,134,162	94,436,748	53,657,219	42,490,688
West Coast Lumbermen's Ass'n:						
Total	2,148,666,128	1,756,074,885	2,401,005,721	1,696,308,585	2,310,956,044	1,792,835,970
Week (130 mills)	105,288,802	86,403,359	119,324,813	82,880,639	100,956,336	81,006,612
Western Pine Mfrs. Association:						
Total	532,157,000	351,038,000	584,031,000	483,122,000	556,125,000	561,475,000
Week (42 mills)	37,487,000	30,704,000	26,965,000	30,821,000	22,475,000	33,625,000
Calif. White & Sugar Pine Mfrs.:						
Total	224,394,000	81,377,000	209,189,000	117,248,000	488,004,000	191,586,000
Week (10 mills)	15,288,000	8,367,000	7,907,000	4,996,000	5,870,000	4,810,000
Calif. Redwood Association:						
Total	184,888,000	161,176,000	197,395,000	152,752,000	216,917,000	164,200,000
Week (15 mills)	11,374,000	8,548,000	8,007,000	7,166,000	6,254,000	6,477,000
North Carolina Pine Association:						
Total	198,367,627	189,260,347	213,084,485	174,518,435	176,923,338	183,387,407
Week (36 mills)	8,011,512	8,748,822	8,967,707	7,500,367	3,637,477	10,065,597
Northern Hemlock and Hardwood:						
(Softwood) Total	53,000,000	39,484,000	57,903,000	54,556,000	55,529,000	56,423,000
Week (13 mills)	1,607,000	1,989,000	1,823,000	2,551,000	669,000	1,695,000
Northern Pine Mfrs. Association:						
Total	193,193,800	163,645,237	182,621,000	133,151,713	167,934,900	145,494,000
Week (9 mills)	12,704,900	10,190,875	7,267,600	9,290,047	6,236,000	6,690,000
General Total for 22 weeks:						
(Softwood)	5,240,206,937	4,296,022,595	5,685,226,723	4,405,941,852	5,742,306,525	4,831,310,012
Northern Hemlock & Hardwood:						
(Hardwood) 22 weeks	76,186,000	64,437,000	61,552,000
General Total for Week	272,319,837	231,094,338	261,332,282	239,641,801	200,701,032	228,659,897

Lumber Cut of 712 Identical Mills Increases 25 Per Cent in 1922 Over 1921.

The Department of Commerce announces that, according to statistics compiled by the Census Bureau, acting in co-operation with the Forest Service of the Department of Agriculture, the lumber cut of 712 large sawmills—each sawing 5,000,000 feet or more in either 1921 or 1922—showed an increase from 12,416,879,000 feet in 1921 to 15,584,418,000 feet in 1922, or 25.5 per cent.

These mills, the cut of which represented 46 per cent of the total cut in the United States in 1921, are located in 29 states; consequently the comparison may be accepted as indicating fairly accurately the conditions prevailing in the industry in the important lumber regions. It may be interesting to note that all sections except the extreme northeastern part of the United States show increases for 1922 over the output of the previous year.

A comparative statement follows:

COMPARATIVE STATEMENT OF LUMBER CUT: 1921-1922

State	Number of mills reporting	Lumber cut (M feet B. M.)	
		1921	1922
Total	712	12,416,879	15,584,418
Alabama	23	374,634	431,087
Arizona	4	34,827	67,545
Arkansas	37	708,287	829,412
California	30	670,616	831,882
Florida	28	439,824	531,745
Georgia	23	160,046	204,450
Kentucky	9	73,961	89,315
Louisiana	76	1,778,983	1,961,999
Maine	8	65,105	61,988
Michigan	39	352,528	468,519
Minnesota	11	278,225	393,340
Mississippi	41	857,625	979,450
Missouri	7	65,248	95,837
New Mexico	5	60,395	81,929
New York	4	33,656	25,725
North Carolina	21	173,150	217,313
Oklahoma	4	88,634	110,058
Oregon	60	1,504,539	2,033,528
South Carolina	19	242,368	349,724
Tennessee	14	74,076	122,248
Texas	37	804,616	805,064
Virginia	12	98,870	130,154
Washington	134	2,806,732	3,999,654
West Virginia	18	199,637	246,269
Wisconsin	42	410,124	438,882
All other states (1)	6	60,173	77,501

(1) Includes Idaho, Massachusetts, Nevada, and Pennsylvania.

Southern Pine Report.

The Southern Pine Association for the week ended June 1, reports as follows on 133 mills:

	Cars	Feet
Orders on hand beginning of week	15,621	332,742,921
Orders received during week	2,519	53,657,219
Total	18,140	386,400,140
Shipments during week	3,762	80,134,362
Orders on hand end of week	14,378	306,265,778

Production for the week was 78,724,623 feet. Shipments were 1,409,739 feet above production or 1.79 per cent and orders 25,067,404 feet below production or 31.84 per cent. Orders were 33.04 per cent or 26,477,143 feet below shipments. The week was 9.50 per cent or 8,265,040 feet below normal production and orders were 38.32 per cent or 33,332,444 feet below normal production. The decrease in "orders on hand" amounted to 26,477,143 feet or 7.96 per cent.

H. C. Berckes Appointed Acting Secretary-Manager of Southern Pine Association.

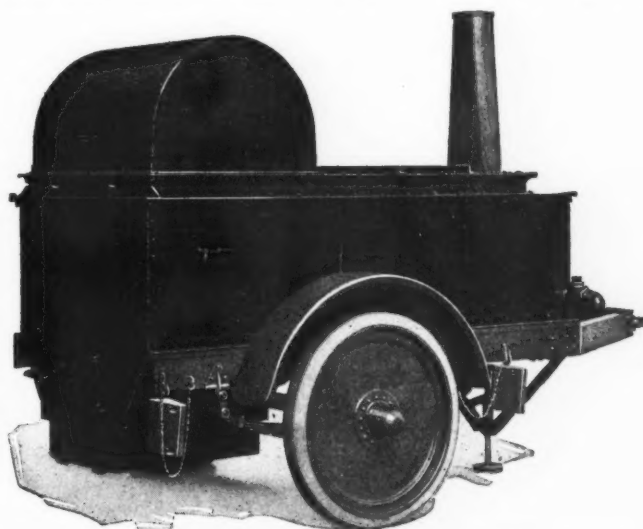
An official announcement of President John H. Kirby of the Southern Pine Association, to directors and subscribers of the Association, of the death of Secretary-Manager John E. Rhodes, states that pending a meeting of the Board of Directors, he has appointed H. C. Berckes, assistant secretary-manager, as acting secretary-manager of the Association. It is expected that a meeting of the board to transact important business of the Association and select a successor to Mr. Rhodes, will be held within a few weeks.

MECHANICAL

"Trail-O" Heater for Road Work.

The problem of what to do with the many army trailers now lying unused in the storage yards of state, county and city highway departments has been solved by Littleford Bros., 449 E. Pearl St., Cincinnati, O., who have designed a tar and asphalt heater which is expressly made for mounting on the army trailer.

The placing of a tar and asphalt heater on a spring suspended chassis with rubber tires and roller bearing wheels has removed transportation difficulties that in the past had limited the use of this kind of equipment. With this superior



ASPHALT HEATER ON TRAILER CHASSIS.

running gear, a tar and asphalt heater can be trailed behind rapidly moving vehicles in safety, which enables a highway department to cover more mileage and do better work.

Where the "patrol system" of maintenance has been established repair gangs will cover their districts more frequently and with greater efficiency and economy, and when the heater is not used in this capacity it is large enough to be used at the central mixing plant.

The kettle of this heater has a capacity of 300 gallons. All seams are electric welded. A 2 inch draw-off valve is provided on each side. The cover is arranged with a warming hood under which a barrel of tar or asphalt may be placed for draining. The furnace shell completely surrounds the kettle. It is supported on each side and is bolted securely to the chassis frame. A large fire box, with an improved type fire door and renewable grate bars is conveniently located at the rear. It is provided with a large ash pit and draft control door.

New Portable Pumping Outfit.

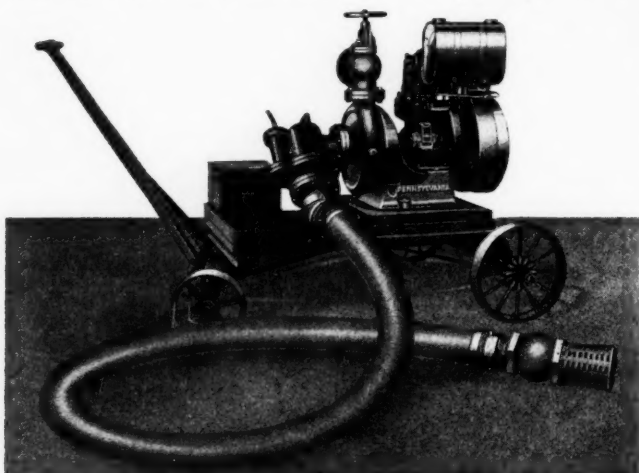
The trend toward the use of portable machinery has made another step forward in a portable pumping outfit recently developed by the Pennsylvania Pump & Compressor Company, of Easton, Pa. In combining with the well known "New Way" 5 horse power gasoline engine, one of their 3 inch Type "LS" centrifugal pumps, mounted on the engine shaft, they have produced a portable outfit of large capacity, and yet light enough to be easily handled. The illustration shows one of these outfits complete with hand primer and 10 feet of suction hose, all mounted on a small hand truck.

The engine is manufactured by the New Way Motor Company of Lansing, Mich., and it is of unique design. The cylinder is cooled by a patented method of cooling directly

by air with all unnecessary parts of the water-cooled method eliminated, the special honeycomb cylinder providing an immense amount of surface for radiating heat. The heat is then literally wiped away from the cylinder walls by a strong blast of air blown from the fly wheel, which throws thousands of feet of air around the cylinder every minute. Thus the cylinder is kept at the proper temperature to produce the maximum power with the least fuel. The engine is of the four cycle type and the magneto can be equipped with impulse starter, all making the engine extremely easy and sure to start.

The Pennsylvania pump is of the single stage, side suction type, with open impeller, the best type it is stated for this service. The back and edge of impeller and the interior surface of the casing are accurately machined to template, insuring the proper uniform clearance between the rotating and stationary elements. The engine shaft extends into the pump casing and the impeller is mounted upon its end. That portion of the shaft extending into the pump and exposed to the action of the liquid being pumped, is covered with a bronze sleeve to prevent corrosion and is easily renewable if necessary.

The capacity of the pump will vary throughout the range of total head produced, delivering approximately 50 gallons per



PORTABLE PUMPING OUTFIT ON TRUCK

minute at 30 to 35 feet total head, or 250 gallons at 25 feet total head, and increased capacity at still lower heads. The weight of the complete outfit as shown is 780 pounds, while the combined engine and pump alone weighs but 550 pounds.

For pumping out sewers, foundation excavations, cellars, etc. where a portable pumping unit of large capacity is needed, these pumps are, it is noted, filling a long felt want, and, as a light compact power driven bilge unit for barges, etc., it is much in demand.

The outfit may be mounted upon a hand truck, as shown, for portability, the suction pipe being standard suction hose, or it may be installed on skids or on a permanent foundation, all depending upon the service.

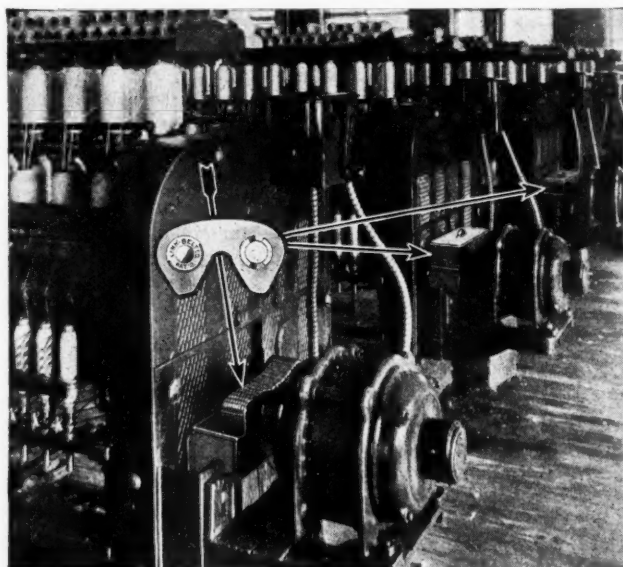
Individual Drive With Silent Chain.

The illustration accompanying this article shows only one of the 184 spinning frames in the 44,000 spindle mill of the American Spinning Company, of Greenville, S. C. There are 93 of these frames driven by General Electric motors of five horsepower with Link-Belt "Silent" chains, the remainder requiring $7\frac{1}{2}$ horsepower motors and drives.

In commencing on this installation, Thomas A. Sizemore, superintendent, who has had a great deal of experience with various types of power and power transmission, said: "Aside from the flexibility of the individual drive the quality of our

product has been wonderfully improved through the even and unvarying speed with which our frames are being driven. Formerly the varying speed resulted in considerable breakage of yarn at the traveler."

It is Mr. Sizemore's conviction that this slippage, which he estimated to be at least 6 per cent, has now been entirely



SPINNING FRAME WITH MOTOR AND CHAIN DRIVE

eliminated. "This elimination, he says, "has increased our production six per cent, which with 184 frames in operation, is equivalent to putting eleven extra frames on the floor. Certain it is that the increased production gained in the spinning department through the introduction of the individual drive enabled us to install forty-eight more looms."

Commendations, Kicks and Comments

An Honest Exponent.

J. F. RICHARDSON, Manager, Acme Loom Harness & Reed Co., Greenville, S. C.—We are subscribers to the MANUFACTURERS RECORD and would not be without a regular weekly copy for anything. It is the honest exponent first of the South and then of all America. The writer has been reading it for thirty years—when you first issued about six pages with a yellow back cover, struggling for the interest of the Southern people.

Long may the RECORD live.

Rigid Enforcement Needed.

JNO. P. BURK, Manager, Newtown Giant Incubator Corporation, Harrisonburg, Va.—We are enclosing our check for renewal subscription to MANUFACTURERS RECORD. The paper is of much value to us in a business way, but the writer wishes to commend Mr. Edmonds for his stand on law enforcement. It will be a sad day for this Government when it admits its inability to enforce the constitutional law, and there has never been a time in the history of the country when rigid enforcement is more needed than at present.

I trust he may live to enjoy a full measure of reward for the splendid work he is doing for the development of the whole country, and the South especially.

An Appreciative Voice from Far-Off Korea.

C. H. DEAL, Manager, The Textile Department Songdo Higher Common School, Songdo, Korea (Kaijo, Chosen).—I wish to express my appreciation of your wholesome position on all questions of right, and your Christian attitude toward business, politics and other social problems.

My work is on a much smaller scale than yours but I am trying to build here in the heart of heathenism a model unit of Christianized society and to hold this up before the Far East as a model. My success, which I am sure definitely has the support of the Creator of all the universe, is greater than I dreamed at first and its possibilities are unlimited.

Construction Department

EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

Bridges, Culverts and Viaducts.

Ala., Montgomery—Details under Road and Street Construction.

Ala., Tuscaloosa—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky., plans building steel bridge across 21st Ave., to replace wooden trestle.

Ark., Judsonia—White County received low bid from R. L. Gasor, Little Rock, at \$45,000 to build bridge across Little Red River at Judsonia. Address County Commrs.

Fla., Miami—Venetian Islands Bridge Co., recently organized, plans building 100-ft. wide causeway, known as Venetian Way, across Biscayne Bay, connecting 4 Venetian Islands with Miami on east and Miami Beach, via Belle Isle, on west; Jas. A. Moore, Pres.

Fla., St. Petersburg—Details under Road and Street Construction.

Fla., Wabasso — St. Lucie County plans building bridge across Indian River at Wabasso; will vote June 22 on \$75,000 bonds. Address County Commrs.

Fla., West Palm Beach—State Road Dept., Tallahassee, Fla., plans building 2 bridges. Details under Road and Street Construction.

Ga., Waycross — Details under Road and Street Construction.

Ky., Paducah—McCracken County plans placing concrete culvert at 33rd and Jefferson Sts. Address County Commrs.

Missouri—State Highway Dept., Jefferson City, Mo., plans building 13 bridges as follows: Boone County, 5 on road from Kansas City to St. Louis, one over Perche Creek, State Proj. Route 2; Cass County, 4 on road from Belton to Harrisonville, over Grand River, East Fork of Grand River, and East Branch of East Fork of Grand River, State Proj. Route 35; Marion County, 2 on road from Hannibal to West Ely, one over Minnow Branch, State Proj. Route 8, Sec. 70; Sullivan County, on road from Milan to Green City, over Yellow Creek, State Proj. Route 6, Sec. 35; St. Louis County, on road from St. Louis to Manchester, Manchester road, over River Des Peres, State Proj. Route 12; B. H. Piepmeier, Ch. Engr.

Missouri—State Highway Dept., Jefferson City, Mo., plans building 19 bridges as follows:

Bates County, 8 on road from Butler to Nevada, over Marias Des Cygnes River, Marias Des Cygnes Drainage Ditch, Possum, Mound and Muddy Creeks, over streams, and over Miami River, State Proj., Route 1; Madison County, on road from Patton to Fredericktown, over Big St. Francis River, and on road from Ironton to Fredericktown, over Turkey Creek, State Proj., Route 70; Shelby County, on road from Shelbyville to Shelbyna, over Salt River, State Proj., Route 15, Sec. 23.

Barton County, 2 on road from Nevada to Carthage, one over Muddy Creek, State Proj., Route 1; Douglas County, on road from Ava to Gainesville, over Spring Creek,

State Proj., Route 5, Sec. 91; Newton County, on road from Neosho to Goodman, State Proj., Route 1, Sec. 107; Platte County, 2 on road from Kansas City to St. Joseph, over Bee and Owl Creeks, State Proj., Route 1; Stone County, 2 on road from Crane to Galena, over Bailey and Pine Run Creek, State Proj., Route 43, Sec. Nos. 9 and 11; B. H. Piepmeier, Ch. Engr.

Mo., St. Louis—City received low bid from F. A. Stiers, 4500 Enright St., St. Louis, at \$468,943.00, for 1140-ft. reinforced concrete viaduct on 14th St. Address Board of Public Service. (Lately noted.)

North Carolina—State Highway Comm., Frank Page, Chmn., Raleigh, N. C., will receive bids until June 27 to build 2 bridge projects as follows:

302½-Bladen County, over Cape Fear River at Elizabethtown, forty-five 50-ft. deck girder spans, and 350-ft. steel truss; 811 B-Burke County, Crossing over Southern Ry. tracks, near Calvin, route No. 10.

Okl., Ada—Pontotoc County Commrs. are considering expending \$150,000 to build reinforced concrete bridges and culverts, to replace ones recently destroyed.

S. C., Greenwood—Greenwood and Laurens Counties contemplate building concrete bridge over Saluda River; approximate cost \$80,000.

Tenn., Chattanooga — Hamilton County Highway Commrs. receive bids until June 12 to construct concrete bridge over tracks of Lookout Mountain Incline Ry., on Lookout Mountain Pike; plans, etc., from County Engr.

Tex., Austin—Travis County, will receive bids until June 19 to construct bridge over Little Walnut Creek on S. H. No. 20; F. A. Proj. No. 200; 100-ft. steel span, of 94,500 lbs structural steel and 20,492 lbs reinforcing steel; or three 37-ft. concrete girders, of 41,008 lbs. reinforcing steel; plans, etc., from O. Leonard, County Engr., or State Highway Dept., Austin, Tex.; J. A. Belger, County Auditor.

Tex., Barstow—Ward County, E. W. Sweater, County Judge, plans building 125-ft. steel and concrete bridge over Pecos River, between Reeves and Ward Counties; cost \$17,400; F. A. Proj. No. 396; R. E. Booker, County Engr., Monahan, Tex.

Tex., Canadian—Hemphill County, J. E. Stephens, County Judge, will receive bids about June 15 to construct 150-ft. bridge over Washita River, on S. H. No. 4; estimated cost \$10,000.

Tex., Linden—Cass County, S. L. Henderson, County Judge, let contract to Smith Bros., American National Bank Bldg., Dallas, at \$126,051.44, to construct pile trestle bridge, with gravel surfaced earth approaches, over Sulphur River, at Pace's Ferry, between Bowie and Cass Counties. (Lately noted.)

Va., Lynchburg—Norfolk & Western Ry.

Co., plans building 2 bridges in McKinley and Park Aves., to replace wooden structures; W. P. Wiltsee, Acting Ch. Engr.

Va., Portsmouth—Norfolk County contemplates rebuilding 100-ft. Westhaven Bridge; also repairing Indian River Bridge; R. B. Preston, Engr. Address Comm. of Roads and Bridges.

W. Va., Wheeling—Details under Road and Street Construction.

Canning and Packing Plants.

Fla., Arcadia—DeSoto Canning Association, incorporated with John H. Treadwell, Pres.; H. L. Crews, Sec.

Miss., Pascagoula—E. J. Ford and H. C. Herring are interested in erection of shrimp and oyster canning plant.

N. C., Charlotte—Piedmont Canning Co., capital \$50,000, incorporated with L. W. Wingate, Pres.; Charles Gibson, Sec.; has acquired plant of Thomasboro Canning Co. and will operate.

N. C., Greensboro—J. A. Baker Packing Co., capital \$500,000, incorporated by John A. Baker, J. H. Hanley, Marcus Erwin, all of Asheville, N. C.

Tenn., Chattanooga — Drake-Kelly Co., capital \$25,000, incorporated with S. E. Drake, Pres.; has acquired Tennessee Farm Products Co.'s building on Dodds Ave. and will operate.

Clayworking Plants.

Ky., Madisonville — Atlas Clay Products Co., incorporated by E. H. Pennick, N. M. Mitchell, A. F. Fox.

S. C., Newberry—L. A. Wilson reported to erect \$50,000 brick plant in Newberry County.

Tenn., Memphis—Goodwyn Crockery Co., increased capital from \$125,000 to \$200,000.

W. Va., Martinsburg—Eastern Sewer Pipe & Brick Co., capital \$350,000, incorporated with F. Vernon Aler, Pres., Martinsburg; Martin J. Beach, Sec., Calvert Bldg., Baltimore, Md.; will manufacture sewer pipe, hollow tile, building and paving bricks, etc.

Coal Mines and Coke Ovens.

Ala., Birmingham—Porter Coal Co. increased capital from \$10,000 to \$100,000.

Ga., Augusta—Hill Coal Co., incorporated by Z. S. Sikes, George Farrar and W. A. Johnson.

Kentucky—Elkhorn Star Coal Co., D. D. Sutton, Pres., Pikeville, Ky., increased capital from \$125,000 to \$175,000; will increase output of plant in the Elkhorn section and develop additional acreage recently acquired.

Ky., Lexington—Cassidy Coal Co. increased capital from \$25,000 to \$50,000.

Va., Richmond—Domestic Fuel Corp., capital \$50,000, incorporated with William E. Broadus, Pres.; W. F. H. Enos, Sec.

W. Va., Avondale—Letha-Pocahontas Coal

In writing to parties mentioned in the department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Co., capital \$50,000, incorporated by Warfield Strickler, Avondale; D. L. Auvil, Yeager, W. Va., and others.

W. Va., Bachman—Cataract Smokeless Coal Co., capital \$200,000, incorporated by Herbert R. Smith, Medford J. Brown, Philadelphia, Pa.; George P. Spates, Ten Hills, Baltimore, Md.

W. Va., Charleston—Searles Coal Co., capital \$50,000, incorporated by L. W. Searles, F. W. Field, H. W. Burton.

W. Va., Fairmont—West Virginia Great Lakes Coal Co., capital \$500,000, incorporated by James Edwin Gaskill, H. M. Hill, E. M. Watkins.

W. Va., McDowell County—Pond Creek Pocahontas Co. general office, Stone, Ky., T. B. Davis, Pres., No. 1 Broadway, New York, let contract to construct two concrete lined shafts, plans developing and equipping for estimated output of 750,000 tons annually, capacity of shafts 8000 tons per 8 hrs.; have arranged with Norfolk & Western Ry. for building of sidetracks and with Appalachian Power Co. for power. (Supersedes recent item.)

Concrete and Cement Plants.

W. Va., Huntington—Ford Block Co., Ashland, Ky., E. A. Ford, Gen. Mgr. contemplates erection of branch plant to manufacture cement and gravel blocks.

Cotton Compresses and Gins.

Miss., Collins—Collins Gin Co., capital \$8000, incorporated by W. J. Barnes, W. R. Holloway, Collins; I. H. Brown, Ellisville, Miss.

Mo., Marston—C. M. Barnes interested in erecting \$20,000 cotton gin.

Tex., Fife—Fife Gin Co., incorporated by R. E. Finley, A. W. Long, C. M. Coonrod.

Tex., Sabinal—Arnim Gin Co., capital \$6000, incorporated by J. J. Arnim and J. J. Arnim, Jr., and others.

Tex., Winfield—Judson Garner and R. H. Cargile will erect cotton gin with capacity of from 50 to 75 bales of cotton; cost of plant and equipment \$15,000.

Drainage Systems.

Ala., Fayette — Guy A. Hart, Engr., in charge has begun work on the 40 mi. of ditches to be constructed in Fayette-Lamar Dist. No. 1 and Fayette-Lamar Dist. No. 2, also in Marion County Dist. No. 1; has \$500,000 for completion of work. (Previously noted.)

Ala., Fowl River—Fowl River Drainage

Dist. No. 1, W. J. Durand, Sec., Box 945, Mobile, Ala., will receive bids until July 12 to construct drainage system; work includes 69-016 cu. yds. earth excavation, building small bridges, using approximately 33,400 ft. B. M. bridge timbers; necessary clearing about 11½ acres right of way.

Ark., Eudora—Eudora-Western Drainage Dist. Comms., Frank Van Ness, Sec., let contract to McWilliams Co., of Memphis, Tenn. to construct ditch 25 mi. long, with average width of 12 mi., reclaiming 126,000 acres in Jefferson, Lincoln, Drew, Desha, Ashley and Chicot Counties; costing \$1,000,000; excavation work to start immediately, to be completed within 2 yrs.; also let contract to McWilliams Co., Inc., for 3,543,000 cu. yds. of excavation, and 9.1 mi. channel clearing, work on Sechedule D; Baxter Engineering Co., Engr., Moore and Turner Bldg., Little Rock, Ark. (Bids lately noted.)

Fla., Miami—Quinn Construction Co., Bedford Bldg., Miami, Fla., has contract for additional drainage work, extending Snapper Creek Drainage canal across Tamiami Trill; costing \$75,000.

Fla., Miami—Pennsylvania Sugar Co., E. R. Graham, Supt., Columbia Bldg., has been granted legislative authority to construct drainage facilities to protect companies holdings.

Fla., Miami—The Chevelier Corp., Capt. George F. Cook, Republic Bldg., has been granted legislative authority to construct drainage facilities for lands in western Dade County and in northwestern Monroe County.

Miss., Charleston—Comms. of Ascalmore Drainage Dist. No. 1 receive bids until June 26 for excavation of canals and clearing channels, approximately 10 mi., 474,000 cu. yds. drag line work; specifications at office of H. L. French, Engr., Sumner, Miss. or A. L. Dabney, Conslt. Engr., Memphis, Tenn.

Electric Light and Power Plants.

Ala., Birmingham—Alabama Power Co. is constructing high tension power line from Coosa River to Opelika; will construct primary substation at New Aubery, at this station power of the line will be transformed and transmitted into company's 44,000 volt lines from Opelika to Lafayette, Roanoke, Auburn, Waverly, Camp Hill, etc; cost \$1,000,000. (Previously noted.)

Ala., Cherokee—Alabama Interstate Power Co., subsidiary of Alabama Power Co., Birmingham, Ala., granted authority to construct 105,000 h. p. project on Tallapoosa River at Cherokee Bluff.

Ala., Montgomery — Alabama Power Co.,

Birmingham, Ala., is rebuilding dam of hydro-electric plant at Upper Tallassee destroyed by flood in 1919; reconstruction work consist mostly of plain concrete; cost \$400,000; work by company's construction forces; capacity about 8000 h. p.; will not install any additional machinery at the present time; J. M. Barry, Dist. Mgr. (Lately noted.)

Ark., Blytheville—Missouri-Arkansas Power Co., contemplates constructing high tension power line from Caruthersville connecting Blytheville with Caruthersville and Kennet, Mo.; will probably construct substation at Steele, Mo., to serve Steele, Noland, Cotter and other towns in the community with electricity.

Ark., Hot Springs—Arkansas Light & Power Co., H. C. Couch, Pres., will build Rammel Dam on Ouachita River between Malvern and Hot Springs to develop 15,000 H. P., cost \$1,500,000, 50 to 60 ft. high, 900 ft. long at crest; following completion of Rammel Dam the company has tentative plans for Hot Springs dam and station on Carpenter dam site near Hot Springs, 100 ft. high and 1340 ft. long; plans to install two 6000 kw. units initially followed later by installation of third unit; will install simultaneously additional unit of 3000 kw. in plant at Rammel dam; construction of Hot Springs dam to begin in 1924 and to be completed in 1927; as third unit the company plans to build Blanco Springs dam and power station, dam to be 130 to 175 ft. high and 905 ft. long; will install three 6000 kw. units initially and additional units later as required by load; Ford, Bacon & Davis, 15 Broadway, New York, Engineers, have contract for construction of Rammel dam and station and surveys are being made by engineers of this company in connection with Wm. Crooks, Ch. Engr. Arkansas Light & Power Co.; Frank J. Tralease of Ford, Bacon & Davis, will supervise work. (Lately noted in part.)

Fla., Daytona—Details under Land Developments.

Fla., Jacksonville—Details under Land Developments.

Fla., Jacksonville—Utilities Comsn., F. H. Owens, has plans by Schofield Engineering Co., Phila., Pa. for addition to electric light plant on Talleyrand Ave. and 2 new substations; will soon call for bids. (Lately noted.)

Fla., Miami—Details under Land Developments.

Miss., Purvis—City is receiving bids to furnish material and machinery and to install electric light system; plans by Kramer Engineering Co., Magnolia, Miss. (Lately noted voting \$12,000 bonds.)

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MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Mo., Sweet Springs—Kansas City Power & Light Co. of Kansas City, Mo., applied to Public Service Comsn. to purchase and operate Sweet Springs electric plant.

N. C., Tuxedo—Blue Ridge Power Co., John A. Law, Treas., has begun construction of waterpower development at Turner Shoals on Green River; dam will form lake covering 400 acres and develop 10,000 H. P.; will install 3 power manufacturing units, construct transmission lines to Campobello in Spartanburg county a distance of 16 miles, erect sub station for distributing power to Chesnee and Spartanburg; concrete work of dam is under supervision of Jack Ward. (Company lately noted increasing capital from \$700,000 to \$2,100,000.)

Tex., Canyon—City will install white way around the square at present, later probably in the fall, will extend 12 blocks along Houston St. A. J. Arnold, Mayor. (Lately noted.)

Fertilizer Plants.

Ark., Rudy—Fort Smith Fertilizer Co., of Fort Smith, Ark., has leased 40 acres of land, containing approximately 500,000 tons of phosphate and calcium rock, and will erect fertilizer plant with daily output of 1000 tons.

Mo., St. Louis—Tennessee Chemical Co., incorporated by T. L. Croteau, S. E. Dill, C. H. Blaske.

S. C., Charleston—Maybank Fertilizer Co. increased capital from \$300,000 to \$400,000.

Flour, Feed and Meal Mills.

Md., Snow Hill—Herbert W. Mason will erect flour mill at Market St.; 30x74 ft.; capacity 75 bbls. flour and 250 bbls. meal daily; will install Fairbanks-Morse Diesel type oil engine of 50 H. P.

W. Va., Bluefield—Bluefield Milling Co., lately noted incorporated with \$100,000 capital, organized with J. H. Hoge, Pres.; E. L. Jones, Sec.; will operate established plant with daily capacity 800 bbls. flour, 40 tons feed, 2500 bu. meal.

Foundry and Machine Plants.

Ala., Birmingham—National Cast-Iron Pipe Co., increased capital from \$500,000 to \$1,000,000.

Ark., Jonesboro—Casey Welding Co., M. J. Casey, Pres., Birmingham, Ala. will establish welding plant.

Tex., Commerce—American Furnace Co., capital \$10,000, incorporated with T. M. Nelson, Pres.; H. D. Wynn, Sec.-Treas.; will manufacture furnace for boiling water using gasoline or kerosene.

Va., Newport News—Hampton Roads Iron Works Co., Inc., capital \$25,000, incorporated with W. J. Nelms, Pres.; W. B. Colonna, Sec.

Gas and Oil Enterprises.

Ark., El Dorado—Lion Oil & Refining Co., E. C. Winters, contemplates enlarging refinery.

Ark., Fort Smith—Details under Road and Street Construction.

Fla., Miami—Details under Land Developments.

Ky., Irvine—Milford Oil Co., capital \$30,000, incorporated by D. B. Smith, O. W. Swofford, A. M. Clark.

La., Lake Charles—Details under Land Development.

La., Monroe—Consolidated Carbon Corporation, incorporated with Captain C. A. Barbour, Pres.; C. L. Kerr, Sec., both of Houston, Tex.; will manufacture carbon black and natural gas gasoline.

Md., Baltimore — Sterling Gas Co., 815 George St., capital \$100,000, incorporated by Morris Wooden, John D. G. Rinehart, John Hoar.

Md., Baltimore—Greater Oil Co., 1312 Munsey Bldg., capital \$100,000, incorporated by James H. Alexander, J. Leiper Winslow, Wm. Ewin Bonn.

Mo., Kansas City—Woodson Oil Co., capital \$10,000, incorporated by P. L. Levi, George Davis, and others.

Mo., Kansas City—Waite Phillips Co., capital \$50,000, incorporated by Waite Phillips, R. B. Pringle, J. C. Parks; deal in oil.

Mo., St. Joseph—Marland Refining Co., main office Ponca City, Okla., will erect 2-story building and 27 storage tanks of 12,000 gal. capacity at 1702 S. Fourth St.; estimated cost \$50,000.

N. C., New Bern—Great Lakes Drilling Co., incorporated by W. F. Aberly, E. C. Armstrong, of New Bern, and F. W. Nelson of Peoria, Ill.

Okla., Blackwell—Bartlesville Zinc Co. acquired Blackwell Oil & Gas Co.'s 10-in. line from Blackwell to Kay-Noble county line in Tonkawa oil field.

Okla., Enid—Advanced Royalty Syndicate, capital \$20,000, incorporated by H. E. Alton, Albert Hirsch and others.

Okla., Lawton—Damascus Distributing Co., capital \$10,000, incorporated by C. F. Magee, Wm. Stribling, Clay Scott.

Okla., Tulsa—Pulaski Oil Co., capital \$3,000,000, chartered by H. C. Terrell, and E. B. Miller, both Tulsa; W. C. Terrell, Beaumont, Tex.

Tex., Amarillo—C. H. Clark and others, of Wichita Falls, Tex., reported to plan construction of pipe line.

Tex., Amarillo—Plains Oil Corp., capital \$150,000, chartered by Thomas Currie, Frank Wolf, L. B. Newby.

Tex., Denton—Pender Producing Co., capital \$500,000, incorporated by J. W. Pender, J. C. Coit, B. F. Looney; drill oil wells.

Tex., Lockhart—Seaboard Oil & Gas Co., and Grayburg Oil Co. will construct pipe line from Caldwell County oil fields to Burditt's Well.

Tex., Luling—Prairie Pipe Line Co., general office, Independence, Kan., reported to construct pipe line about 4 miles above Luling.

Tex., Luling—Grayburg Oil Co. reported to construct pipe line from oil field to San Antonio & Aransas Pass tracks at Burditt's well.

Tex., Wichita Falls—Tex-Archer Oil Co., capital \$500,000, incorporated by J. H. Sweatt, J. L. Hearn, T. F. Cates.

W. Va., Charleston—Details under Land Development.

W. Va., Charleston—Niclay Oil & Gas Co., capital \$150,000, incorporated by J. V. Sullivan, Homer P. Elliott, Freeman Carter.

Ice and Cold-Storage Plants.

Mo., Moberly—F. M. Stamper Co., capital \$204,000, incorporated by F. M. and H. H. Stamper and others.

Tex., Elgin—Elgin Ice & Cold Storage Co., capital \$20,000, incorporated by A. J. Zelker, W. L. Evers, R. P. Thompson.

Land Developments.

Fla., Bartow—Polk County Realty Co., Inc., incorporated with J. C. Foster, Pres.; G. D. Wallwork, Sec.-Treas.

Fla., Clermont—Postal Colony Co., capital \$100,000, organized with Ernest Denslow,

Pres., Ashtabula, Ohio; E. J. Kern, Webster Groves, Mo., Sec.; will develop 2000 acres near Clermont for townsite and citrus groves, establish home for pensioned postal employees; will install electric light system, sewer system, water works, roads and streets; build homes; will open building machinery bids about Sept. 1; expend approximately \$400,000. (See Machinery Wanted—Tractors; Building Material; Machinery (Land Clearing.)

Fla., Coral Gables—Coral Gables Golf & Country Club, capital \$250,000, incorporated with Geo. E. Merrick, Pres.; Edwin G. Bishop, Sec.-Treas.

Fla., Daytona—Florida Coast Investment Co., capital \$15,000, Robert B. Pacetti, Pres.; Mary L. Holmes, Sec.; will develop about 400 acres of land 6 mi. south of Daytona; will construct permanent streets and sidewalks; install electric light system, water works, septic tank sewer system, roads and streets. (Lately noted.)

Fla., Eustis—S. L. Harris and Joseph Elchelberger both of Eustis and W. F. Workman of Springfield, Ill., acquired 1000 acres and will develop 700 acres of land in Grand Island; will provide citrus groves of 10 acres each.

Fla., Jacksonville—N. D. Suttles will develop 560 acres on St. Johns' River for subdivision; will install lights, sewers, water, roads and streets, etc.; will expend approximately \$500,000.

Fla., Key West—Paul Boysen Development Co., capital \$50,000, incorporated with Paul Boysen, Pres.; Joseph F. Uhrbach, Sec.

Fla., Lakeland—City will probably call election to vote on bond issue for civic centre and library sites, park, athletic field, armory, opening of Main St., etc. Address The Mayor.

Fla., Lake Worth — Island Improvement Co. purchased and will develop 30 acre tract.

Fla., Miami—Spring Garden Realty Co., John Seybold, Pres., will develop Miami Country Club subdivision; will construct fill-in of river front property to the harbor line; will pave streets with oiled macadam, sidewalks, curbs, gutters, install storm and sanitary sewers, water, gas, electric light and telephone systems; will plant entire subdivision with palms and other tropical plants; will expend initially about \$50,000.

Fla., Miami—D. P. Davis, Inc., capital \$750,000, incorporated with D. P. Davis, Pres.-Treas.; H. V. Johnson, Sec.

Fla., Nichols—Realty Investment Corporation, capital \$25,000, incorporated with C. E. Jobson, Pres.; H. A. Brown, Sec.

Fla., St. Petersburg—Boulevard and Bay Land & Development Co., Fred V. Blair, Sec., offices in Plaza Building, will develop land around Pappy's Bayou for citrus grove and homesite, will construct sea wall, roads, etc.

Fla., St. Petersburg—F. C. L. Realty Co., capital \$10,000, incorporated with A. B. Chaney, Pres.; W. A. Fuhrmann, Sec.-Treas.

Fla., Stuart—J. R. Greenlees of Laurence, Kan. will develop 4100 acres for citrus grove on Stuart-Annie Road divided into 10 acre tracts.

Fla., Tallahassee—Brown and Co. of Portland, Maine, purchased 32,000 acres land in Palm Beach County; will develop.

Fla., Tavares—F. L. Kendall, of Worcester, N. Y., acquired 100 acres on Eustis-Tavares road and will develop for citrus grove.

Ga., Savannah—W. C. Weis and R. H. Rhindes acquired 125 acres on Wilmington Island and will cultivate in flower bulbs.

La., Lake Charles—Sweet Lake Land & Oil Co., capital \$700,000, incorporated with H.

G. Chalkley, Pres.; S. Arthur Knapp, Sec.-Treas.

Md., Baltimore—Pistorio & Faupel Realty Co., Gwynn's Falls Parkway & Ellamont St., capital \$100,000, incorporated Henry G. Faupel, Stanley H. Faupel and Samuel M. Pistorio.

Md., Baltimore—Pyramid Realty Co., Inc., 610 E. Lombard St., capital \$50,000, incorporated by Simon Trepolsky, Joseph Kellman, Herbert L. Levy.

Md., Hagerstown—Mid-City Realty Co., 15 Public Square, incorporated by Thomas L. Richard, Ernest J. Newcomer, Clarence C. Doub.

Miss., Laurel—Jones County Demonstration Co., has engaged L. W. Duffee, Engr., Laurel, to lay off sites, roads, etc. in connection with the development of cut-over lands in Jones county for colonization; will construct homes, establish dairy and poultry center.

Mo., Kansas City—Wilson-Pugsley Co. acquired 10-acre tract and will develop for subdivision.

Mo., Kansas City—Singletary Realty Co., incorporated by C. C. North, C. E. Greenlee, F. A. Taylor.

Mo., St. Louis—Kenbur Realty Co., capital \$203,000, incorporated by T. L. Croteau, M. A. Bruce, A. M. Hooven.

Mo., St. Louis—Wildwood Springs Club, Inc., capital \$100,000, incorporated by John Zahorsky, T. H. Cobbs, G. B. Logan.

Tex., Brownwood—River Valley Hereford Farms, capital \$50,000, incorporated by F. S. Abney, R. L. Mauldin, R. L. Mauldin, Jr.

Tex., Dalhart—James Ranch Co., capital \$400,000, incorporated by A. M. and W. P. James, J. J. Noone.

Va., Clifton Forge—Alleghany Floral Co., Inc., capital \$25,000, incorporated with W. D. Bowles, Pres.; Geo. H. Vermilyn, Sec.

Va., Lynchburg—Progressive Investment Corporation capital \$50,000, incorporated with Mrs. A. P. Montague, Prest.; Mrs. Claudius B. Couch, Sec.-Treas.

Va., Norfolk—Tyaskin Realty Corp., incorporated with LeRoy Woodis, Pres.; Clarine A. Archer, Sec.

W. Va., Charleston—Nicclay Oil & Gas Co., capital \$150,000, incorporated by J. B. Sullivan, Homer P. Elliott, Freeman Carte, to develop real estate.

W. Va., Charleston—Johnson-Duffield Land Co., capital \$25,000, incorporated by S. A. Moore, J. B. Hart, A. J. Peck.

Lumber Manufacturing.

Ala., Coosa County—R. Black Lumber Co., Alexander City, Ala., (lately noted incorporated, capital \$25,000) organized with J. R. Black, Pres.-Mgr.; J. L. Willis, Sec.-Treas.; has building and machinery installed; present daily output 15,000 ft. long leaf yellow pine, will increase to 30,000 ft.

Ala., Opelika—H. J. Sullivan, of Tallassee, Ala., reported as planning erection of lumber and planing mill.

Ala., Ozark—Ozark Lumber Co., capital \$10,000, incorporated by W. T. and E. C. McGowin, and W. T. McGowin, Jr.

Ala., Ozark—Seminole Lumber Co., capital \$100,000, incorporated by J. F. Alexander, B. R. Wall, Mack Morgan.

Fla., Pensacola—Runyan Export Lumber Co., capital \$20,000, incorporated with Wm. B. Runyan, Pres.; C. S. Runyan, Sec.-Treas.

Fla., Okeechobee—Okeechobee Lumber Co., capital \$20,000, incorporated with W. G. Stovall, Pres.; W. G. Gary, Sec.-Treas.

La., Elizabeth—Calcasieu Manufacturing

Co. increased capital from \$250,000 to \$350,000.

Miss., Batesville—Panola Lumber & Manufacturing Co., of Memphis, Tenn., reorganized, has acquired 2000 acres timber land in Panola and Quitman Counties, will develop.

Miss., Canton—Mosby-Tull Lumber Co. increased capital from \$10,000 to \$15,000.

Miss., Poplarville—Stewart Lumber Co., (lately noted incorporated capital \$20,000) organized with S. W. Hoskins, Pres.; J. F. Stewart, Treas.-Mgr.; has saw mill with equipment complete, daily capacity 25,000 ft.

Miss., Valley—Valley Saw Mill Co., capital \$10,000, incorporated by C. L. Frates, T. B. Slack and others.

Mo., Ellington—Barnes-Walton Lumber Co., capital \$40,000, incorporated by W. T. Freeman, Eli Smith, W. H. Walton.

Mo., St. Louis—Messing Planing Mill Co., 2716 South 3rd, capital \$50,000, incorporated with Anton Messing, Pres.; Arthur R. Messing, Secy.-Treas.; will continue existing business.

S. C., North Augusta—Consolidated Lumber Co., capital \$10,000, incorporated with H. F. Cooper, Pres.; Milton L. Tyler, Sec.-Treas.

S. C., Prosperity—Saner Lumber Co., Inc., (lately noted incorporated) organized with C. F. Saner, Pres.; G. W. Harmon, Sec.-Treas.; W. G. Barmes, Mgr.; will erect 32x100-ft. fireproof building, construction by owners; install planers, boilers, engine, trimmer, etc., cost \$10,000; all equipment purchased.

S. C., Spartanburg—Spartanburg Lumber Co., L. D. Proffitt, Pres. increased capital to \$50,000; will enlarge plant. (Lately noted.)

Metal-Working Plants.

Mo., St. Louis—Lighting Equipment—The Edwin F. Guth Co., organized with Edwin F. Guth, Pres.; Charles M. Wempner, Sec., designers and manufacturers of lighting equipment; every operation of manufacture from raw material to finished product is handled with the plant, including designing, molding, founding, spinning, stamping, machining and electroplating; the new company is the merging of the St. Louis Brass Manufacturing Co., and the Brascolite Co. of St. Louis.

Mining.

Ala., Flint—Southern Rock Asphalt Co., capital \$600,000, incorporated by J. K. Jarvis, A. J. Gohmann and L. D. Powell, all Louisville, Ky.; will develop about 2000 acres, erect refining plant, daily capacity 500 tons, cost \$150,000; O. D. Robbins, Engr., Louisville, Ky.

N. C., Lilesville—Yadkin Gravel Co. increased capital from \$50,000 to \$150,000.

N. C., Mt. Holly—R. C. Belk Sand Co., R. C. Belk, Box 157, let contracts for erection of sand plant on the Belk farm, installing steam shovel and loading apparatus, daily capacity 50 cars; estimated cost \$15,000; also build 2 mi. standard gauge railroad from main line of the Seaboard tracks at Mt. Holly up to the farm, equipped with box cars and 60-ton locomotive, costing about \$20,000.

Tex., Llano—Dealers' Granite Corp., (lately noted incorporated, capital \$75,000) organized with Philip Welhausen, Pres., Yoakum, Tex.; Grady Faubion, Sec.-Treas., and L. H. Baldwin, Mgr., both of Llano, Tex.; have approximately 50 acres land, will quarry rough granite; daily average output 50 cu. ft.; have purchased most of machinery.

Va., Marion—Amalgamated Mining & Development Corp., capital \$1,000,000, incorporated with A. T. Short, Pres., Marion; C. P. Carson, Sec., Bluefield, W. Va.

Va., Mineral—Gold—Twin Vein Mining Co., organized with Co. Thos. R. Marshall, Supt., has machinery for the development of gold deposits; will soon start work.

Miscellaneous Construction.

Fla., Miami—Fill—Details under Land Developments.

Fla., St. Petersburg—Sea Wall—Details under Land Developments.

La., New Orleans—Parkway and Bathing Beach—Charles J. Donner, Sec. of the Orleans Parish Levee Board, interested in construction of parkway and bathing beach along the lake shore.

Md., Baltimore—Channel—F. C. Harrington, Major Corps of Engrs., U. S. Engineer Office, 300 Customhouse, Baltimore, conducted hearing June 12 on advisability of relocating the York Spit section of the 35-ft. channel leading to Baltimore.

Miss., Vicksburg—Seawall—City will receive bids until July 2 to construct concrete seawall along the river front, approximately 4200 lin. ft. of wall containing 9500 cu. yds. concrete, 1450 tons reinforcing steel, and 4200 lin. ft. interlocking sheet piling 10 to 20 ft. long; Miller-Butterworth Co., Engrs., 624 Southern Trust Bldg., Little Rock, Ark.; J. J. Hayes, Mayor. (Lately noted.)

Miss., West Point—Levee—Clay County Board of Supvrs. will construct 2 mi. levee across Lone Creek swamp, levee will run between Beat 4 and 5, protecting 5 sections of land; contract to be let in July.

Tex., Fort Worth—Fort Worth Elevators Co. will erect \$350,000 grain elevator at Katy R. R. and Dickson St. crossing, will include 36 fireproof grain tanks of reinforced concrete.

Tex., Galveston—Fill and Grading—City and County will fill and grade western area of city; has \$1,250,000 available from bond issue recently voted; Baylis E. Harriss, Mayor.

W. Va., Wheeling—Retaining Wall—Details under Road and Street Construction.

Miscellaneous Enterprises.

Ala., Birmingham—Norwood Floral Co., incorporated by J. S. Norton, Forney Renfor, T. C. King.

Ala., Birmingham—Woodlawn Infirmary, Inc., capital \$10,000, incorporated by Dr. J. H. Stephens, Alma Burns and others.

Ala., Birmingham—Dixie Laundry Co., capital \$10,000, incorporated by M. A. Creest, Nick Cottis, Pete Sarros.

Ala., Birmingham—Birmingham Apartment Co., capital \$20,000, incorporated by J. B. Dryer, Joseph E. Johnson and George B. Tarrant.

Ala., Birmingham—Birmingham Motion Picture Corporation, chartered by A. P. Bagby, C. T. McGuire, L. C. Burks.

Ala., Birmingham—Borris Construction Co., capital \$15,000, incorporated by J. L. and S. H. Borris, J. H. Kinzer.

Ala., Birmingham—Parisian Dye Co., incorporated with F. W. Reese, Pres.; R. W. Vance, Sec.

Ala., Cullman—Farmers & Merchants Warehouse Co., incorporated by Fred J. Buchanan, H. P. Biggers, G. Scott Leath.

Ala., Foley—Orange Crush Bottling Co., capital \$25,000, incorporated by Reo C. and Robert Randolph, Wilbur L. Shriner.

Ala., Gadsden—American Billiard Supply Co., capital \$20,000, incorporated by C. H. Blum, F. E. Wimpee, and others.

Ala., Tuskegee—Printing—J. A. Matthews, Editor of the Tuskegee News, has acquired printing plant of C. W. Hare, will improve and probably edit a county paper.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Fla., Jacksonville—Domestic Laundry Co., capital \$25,000, incorporated with W. S. Beasley, Pres.; C. C. Avrett, Sec.

Fla., Jacksonville—Carolina Turpentine Co., capital \$10,000, incorporated with E. B. Blount, Pres.; E. S. Cheney, Sec.-Treas.

Fla., Lakeland—Pinch Electric Equipment Co., capital \$10,000, incorporated with C. O. Pinch, Pres.; H. M. Pinch, Sec.-Treas.

Fla., Miami—Brewer Properties, Inc., capital \$75,000, incorporated with Dr. Edward P. Brewer, Pres., Norwich, Conn.; John E. Holland, V. P., Miami.

Fla., Orlando—Central Cigar & Tobacco Co., capital \$25,000, incorporated with F. P. Jaudon, Pres.; Geo. P. Raney, Sec.

Fla., Sebring—Peacock-Hood Engineering Co., incorporated with W. C. Peacock, Pres.; J. H. Hood, Sec.-Treas.

Fla., Stuart—Printing—South Florida Developer, Inc., capital \$10,000, incorporated with Edwin A. Menninger, Pres.; Ella W. Menninger, Sec.-Treas.

Fla., Tampa—Amusement Park—Tampa Alligator Farm, capital \$10,000, incorporated with C. M. Stokes, Jr., Pres.-Treas.; Myrtis I. Stokes, Sec.

Ky., Ashland—Whistle Carbonating Co., incorporated by S. R. Bishop, John W. Woods, O. C. Mowry; bottle soft drinks.

Ky., Columbia—Durham-Fraser Co., increased capital from \$20,000 to \$25,000.

Ky., Irvine—Irvine Construction Co., incorporated by James A. Wallace, C. H. Hockensmith and others.

Ky., Lexington—Green Seal Paint Co., incorporated by J. N. Strader, M. M. Reid and Thomas P. Prather.

Ky., Lexington—Hurst & Byars Printing Co., capital \$12,000, incorporated by Ollie C. Hurst, Robert C. Byars, C. B. Newman.

Ky., Louisville—Childers Electric Co., increased capital from \$20,000 to \$60,000.

Ky., Louisville—Modern Store Fixture Co., capital \$10,000, incorporated by Edward C. and N. P. Wirth, Wm. N. Voor.

La., Gibsland—Hammer & Co., Inc., increased capital from \$50,000 to \$100,000.

Md., Baltimore—McHenry Theater Co., Inc., 1332 S. Hanover St., capital \$70,000, incorporated by Charles, Arthur and Walter D. Pacy.

Md., Baltimore—United Iron & Metal Co., capital \$100,000, incorporated by Jacob S. Shapiro, Harry T. Murray, and others.

Md., Bethesda—Wardman Park Jersey Farm, Inc., incorporated by Roy M. Nichols, Myron S. Cotton and others.

Md., Cumberland—Washington Apartments Inc., 1 Washington St., capital \$150,000, incorporated by Charles H. Steiner, James W. Thomas, F. Brooke Whiting.

Md., Hyattsville—Contracting—Shepherd & Gilbert Co., capital \$50,000, incorporated by Harry W. Shepherd, Claude Gilbert, and others.

Miss., Biloxi—Marine Fertilizer & Feed Co., increased capital from \$50,000 to \$100,000.

Miss., Hattiesburg—Park Hotel Co., capital \$350,000, incorporated by J. D. Donald, L. W. Bayne, and others.

Miss., Hovey—Pioneer Fruit Co., capital \$25,000, incorporated by J. J. Taylor, B. E. Easton, W. T. Stewart.

Miss., Jackson—Will Terry Vehicle Co., capital \$50,000, incorporated by S. K. Mills, Geo. W. Ruff, Will Terry.

Miss., Laurel—Dairy—Details under Land Developments.

Miss., Vicksburg—Baer Shoe Co., capital

\$10,000, incorporated by Joe Baer, Louis Leyens and others.

Mo., Kansas City—Construction—Industrial Improvement Co., incorporated by H. P. Topping, J. H. Kaiser, W. W. Wheeler.

Mo., Kansas City—Theaters—Kuhn-Chaquette-Campbell Inc., incorporated by E. E. Kuhn, E. H. Chaquette, F. F. Hall.

Mo., St. Louis—Florists—Grimm & Gorley, Vincent J. Gorley, Pres.-Treas. has acquired 4-story 27x68-ft. building at 712 Washington Ave., will remodel and construct a complete greenhouse on roof of structure; total estimated cost, \$250,000.

Mo., St. Louis—Advertising—Ewing Hill Co., Inc., capital \$20,000, incorporated by E. P. Kelly, A. M. Kracke, F. E. Lord.

N. C., Biltmore—Biltmore Hardware Co., capital \$100,000, incorporated by Owen Gudger, E. L. Brewer, F. M. Weaver all Asheville, N. C.

N. C., Charlotte—Chemicals—Akin-Shi-Nall Co., capital \$100,000, incorporated by A. M. Akin, L. W. Wingate, R. F. Stroup.

N. C., Charlotte—W. L. Hand Medicine Co., capital \$363,000, incorporated by E. P. Gatling, W. L. Hand, W. H. Willard.

Okla., Drumright—Strand Amusement Co., capital \$25,000, incorporated by R. W. Elrod and J. W. Briggs, both Drumright, Earl Foster, Sapulpa.

Okla., Enid—Geis-Price Elevator Co., capital \$30,000, incorporated by Karl Geis, J. G. Price, Herman P. Lorenz.

Okla., Guthrie—Co-operative Publishing Co. increased capital from \$25,000 to \$45,000.

Okla., Norman—Theaters—Lindsay-Pickard Brothers Co., capital \$30,000, incorporated by Clyde Pickard, John G. Lindsay and others.

Okla., Oklahoma City—The Leonard & Braniff Co. increased capital from \$5000 to \$10,000.

Okla., Oklahoma City—Oklahoma National Stock Yards Co. increased capital from \$1,000,000 to \$2,000,000.

S. C., Greenville—Cotton—W. E. Mason & Co., capital \$75,000, incorporated with L. H. Carey, Prest.; H. C. Beattie, V. P. and Treas.

Tenn., Knoxville—Planters' Warehouse, Inc., increased capital from \$45,000 to \$100,000.

Tenn., Memphis—Norfleet, Leftwich & Co., capital \$50,000, incorporated by J. C. Norfleet, Jr., Allen W. Leftwich, D. C. Graves.

Tenn., Memphis—William M. Goodbar Co., capital \$10,000, incorporated by F. W. Harris, R. M. Hammond, H. S. Hasley.

Tenn., Memphis—Robinson & Yorger Co., capital \$50,000, incorporated by W. W. Robinson, Luther McCollum, Geo. S. Yorger.

Tenn., Nashville—Drake-Kelley Co., capital \$25,000, incorporated by S. E. Drake, W. E. Kelley, Wm. Metzger.

Tex., El Paso—A. L. M. Hotel Co., incorporated by W. H. Arnett, H. J. Lee, Maggie Marcy.

Tex., Fort Worth—Sands Water Heater Co., incorporated by J. J. Burns, F. C. Suttle, I. L. Schwedman.

Tex., Galveston—Menhaden Products Co., capital \$100,000, incorporated by S. Moody, P. N. Messick, H. E. Barden.

Tex., Houston—United Building Supply Co., Capital \$10,000, incorporated by J. C. and J. S. Jarrett and others.

Tex., Lancaster—Lancaster Hardware Co., capital \$50,000, incorporated by S. L. Randlett, J. F. Lott, H. E. Rawlings.

Tex., Mirando City—Los Ajules Water Co., capital \$15,000, incorporated by C. P. Carter, E. B. Rubsemen, J. F. Fitzsimmons.

Tex., Sagamore—Sagamore Hill Water Supply Co., capital \$25,000, incorporated by W. C. Harris, W. L. Allison, R. H. Fash.

Va., Norfolk—Hardware—Wilson Bros., Inc., capital \$20,000, incorporated with N. C. Wilson, Pres.; E. B. Wilson, Sec.

W. Va., Charleston—Professional Dry Cleaning Co., incorporated by G. B. Cook, C. C. Stone, Elden Goddard.

W. Va., Charleston—Printing—Charleston Saturday Night Co., incorporated by Harry Mann, Paul L. Roy, W. E. Connell, Jr.

W. Va., Morgantown—Robison Supply Co., capital \$50,000, incorporated by Charles C. Robison, Charles Hendershot, Jesse J. Hall.

W. Va., Moundsville—Moundsville Amusement Co., capital \$30,000, incorporated by G. G. Price, S. W. Wade, Lem Price.

W. Va., Worthington—Clarence O. McVey, contemplates making improvements at amusement park, will improve swimming beach, purchase canoes, build automobile roadway, etc.

Miscellaneous Factories.

Ala., Bay Minette—Leader Toy Co., capital \$6000, incorporated by A. T. Keene, H. M. Lawrence, A. T. Wilson; will manufacture toys and novelties.

Ark., Van Buren—Crawford County Creamery Co., capital \$10,000 incorporated with Dr. Giles Lucas, Prest.; E. V. Dowell, Sec.; has building and will install creamery equipment.

Fla., Lakeland—Health Products Co., capital \$100,000, incorporated with O. J. Pope, Pres.; Lucy E. Gault, Sec.; will manufacture health food and similar products.

Fla., Miami—Sunlight Creamery Co., Inc., capital \$200,000, incorporated with R. C. Gardner, Pres.-Treas.; Ernest Britton, Sec.; will manufacture cheese, dairy products and by-products, etc.

Fla., Pensacola—Rest-Well Medicine Co., Inc., capital \$10,000, incorporated with James R. Polkinghorne, Pres.-Treas.; W. H. Madison, Sec.; will manufacture drugs, chemicals, insecticides, toilet articles, etc.

Ky., Louisville—Kentucky Oxygen Hydrogen Co., increased capital from \$100,000 to \$250,000.

La., Monroe—Carbon Black—See Gas and Oil Enterprises.

La., Shreveport—Cuban Coffee Mills, Inc., increased capital from \$75,000 to \$125,000.

Md., Baltimore—"44 Safety Electric Lantern Co." Inc., 704 Union Trust Bldg., capital \$500,000, incorporated by Samuel J. and Allen H. Fisher and others; will manufacture lanterns, lamps, lights, etc.

Miss., Laurel—Royal Blue Glider Co., capital \$20,000, incorporated by F. G. Wisner, M. W. McLaurin, Emil Reinbold and others; will manufacture sleds and playthings.

Miss., West Point—Kill Kraw Co., capital \$25,000, incorporated by B. H. Strong, West Point; Charles Strong and E. P. Bush, Macon, Miss.; will manufacture a chemical preparation to kill insects and ground boring animals.

Mo., Kansas City—Clothing—Berkson Brothers, Inc., capital \$290,000, incorporated by C. H. Jarvis, M. E. Scanlon, M. F. Vance.

Mo., St. Louis—R. E. McDonald-Katzman Co., capital \$125,000, incorporated by R. E. McDonald, Benjamin Berger, Eugene Martini; will manufacture shoes.

Mo., Springfield—Acme Manufacturing Co., capital \$10,000, incorporated by V. A. White, Leo E. Haskett, B. C. McDonald; will manufacture wood and metal products.

S. C. Columbia—Carolina Paper Co., will vote June 25 on increase of capital from \$20,000 to \$50,000.

Tenn., Chattanooga—W. L. Hand Medicine Co., capital \$363,000, incorporated with E. P. Gatling, Pres.; W. L. Hand, Sec.-Treas.; merged with W. L. Hand Co., and will manufacture patent medicines.

Tenn., Martin—American Cigar Co. let contract to M. D. Biggs to erect tobacco plant; cost of building including water and heating plant \$33,700.

Tenn., Memphis—Standard Pharmacal Corporation, incorporated by John R. Kinnie, W. Percy McDonald, E. S. Harper.

Tenn., Nashville—Ready-to-Wear Mfg. Assn., incorporated by Lilla C. Awtrey, C. L. McWhorter, A. W. Whitaker.

Tenn., Nashville—Tennessee Carbonic Co., capital \$75,000, incorporated by John S. Pope, J. B. Regen, John T. Hays; will manufacture carbonic acid gas.

Tex., Houston—Autoteez Manufacturing Co., capital \$250,000, incorporated by C. C. Cannon, J. C. Gibson, L. L. Lormar.

Va., Lynchburg—Smith Manufacturing Co., Inc., capital \$100,000, incorporated with R. L. Smith, Pres.; E. B. Krebs, Sec.-Treas.; has building completed for the manufacture of all-wire rat traps and other wire devices.

Va., Norfolk—Electrified Water Co., Inc., capital \$50,000, incorporated with F. K. Gray, Pres.; Mose Levy, Sec.; to purify water by electricity and manufacture beverages.

W. Va., Fairmont—Automatic Time Poultry Feeder, incorporated with Emmett J. O'Neill, Hubert T. White, Columbus Harr; will manufacture poultry feeder and automatic devices.

W. Va., Welch—Lilly Dental Products Co., capital \$10,000, incorporated by H. G. Camper, Oswald W. Lilly, Joseph M. Crockett.

W. Va., Wellsburg—American Specialty Glass Co., capital \$100,000, incorporated by A. J. Rowing, Wellsburg; G. D. Ulyatt and A. E. Rowider, both Wheeling, W. Va.; will manufacture glass products.

Motor Cars, Garages, Tires, Etc.

Ala., Birmingham—Alabama Sales Corporation, Inc., capital \$10,000, chartered by J. A. McRaes, John D. O'Neil, Ernest Matthews.

D. C., Washington—Washington Automobile Apartments, Inc., organized with Alonzo Tweedale, Pres.; Leo L. Tweedale, Sec., will erect 8-story automobile storage building; acquired site at 1312-1314 New York Ave., N. W.; open bids in about 60 days.

Fla., Miami—Hill Motor Car Co. W. A. Hill, Pres. will erect \$10,000 public garage on Flagler St., concrete block and stucco construction.

Fla., Miami—Garage—Unger-Buick Co. A. A. Ungar, purchased 84x225 ft. site at 2nd Ave. and 12th St., will erect garage building, costing from \$75,000 to \$100,000.

Md., Baltimore—Garage—John F. Duling, 601 N. Fremont St., will erect 1-story 27.7x131-ft. garage on Poplar Grove St., cost \$12,000.

Md., Towson—Towson Garage, Inc., Pennsylvania and Delaware Ave., capital \$50,000, incorporated by Alonzo G. Decker, Homer L. Davis, H. Courtenay Jenifer.

Miss., Collins—Midway Filling Station, (previously noted incorporated) organized with W. S. Rutland, Pres., let contract to L. S. Massengale to erect 60x60 ft. filling station, brick; install air compressor.

Miss., Natchez—Bluff City Motor Co. contemplates building as soon as site is acquired.

Mo., Kansas City—Missouri Oil Corporation, capital \$20,000, incorporated by R. L. Benedict, L. J. E. Nelson, F. H. Morgan; will establish filling station.

Mo., Springfield—Filling Station—E. T. Williams will erect \$10,000 filling station corner St. Louis and National Blvd.

Mo., St. Louis—North Side Nash Co., capital \$17,500, incorporated by L. M. Pierce, H. D. Juengling, E. C. Hyde.

Mo., Wellsville—G. E. Austin has acquired building, will remodel for automobile salesroom.

N. C., Charlotte—C. L. Etheredge, of the Etheredge Motor Co. will erect 2-story brick garage, fireproof construction, cost between \$60,000 and \$75,000; acquired site corner 4th and Graham St.

Okla., Oklahoma City—Keith Motor Co., incorporated by W. G. and O. L. Keith, H. V. Rehbein.

S. C., Columbia—Whitten Auto Wrecking Co., increased capital to \$75,000.

S. C., Greenville—Automobiles—L. A. Mills will erect 3 story, 42x100-ft. fireproof building, open bids Aug. 1; Martin & Ward, Archts., Greenville. (Lately noted.)

S. C., Rock Hill—Huey Chevrolet Co., capital \$20,000, incorporated with D. B. McFadden, Pres.; Hattie McFadden, Sec.

Tenn., Memphis—Garage—H. H. Roth let contract to Blair Construction Co. at \$93,000 to erect 5 story concrete parking garage at 206 Union Ave.

Tenn., Memphis—Filling Station—Reed Oil Co., will occupy 66x150-ft. building at Mississippi Ave. and Lauderdale St.; to be erected by C. N. Grosvenor; James L. Gatling, Archt., Memphis.

Tenn., Memphis—Assembling Plant—Ford Motor Co., main office, Detroit, Mich., reported to erect building four times size of present assembling plant.

Tex., Brownsville—Patterson Motor Co., capital \$50,000, incorporated by Drew Patterson, J. A. Reuss, Alexander Marshall.

Tex., Sherman—Dragon Motor Co., capital \$15,000, incorporated by R. C. Walters, Gus French, C. A. Ripple.

Tex., West Columbia—Columbia Motor Co., capital \$10,000, incorporated by E. M. Matthews, G. L. Clark and others.

Va., Roanoke—Garages, etc.—Florence Development Corp., capital \$50,000, incorporated with C. L. Brewer, Pres.; M. F. Moore, Sec.

Va., Roanoke—Garage—Jarrett Co., Inc., (lately noted incorporated, capital \$50,000) organized with J. T. Jarrett, Pres., has acquired building of Johnson Motor Car Co.; will operate garage, etc.

W. Va., Amherstdale—Triadelphia Motors Corp., chartered by H. H. Smith, B. A. Snow, R. G. Stegall.

W. Va., Charleston—Gus Arnett Sales Co., capital \$50,000, incorporated by Gus Arnett, S. A. Lewis, J. R. Cunningham.

W. Va., Wheeling—Garage—McGraw Motor Co. let contract to Carl Shimp, Martins Ferry, Ohio, at \$90,000 to erect brick garage and salesroom buildings, corner 21st and Main St.; Fred Faris, Archt., Wheeling, W. Va.

Railway Shops, Terminals, Roundhouses, Etc.

Ala., East Thomas, P. O. Birmingham—St. Louis-San Francisco Ry. Co., F. G. Jonah, Ch. Engr., St. Louis, Mo., let contract to John M. Olson, of Springfield, Mo., to erect 20 stall roundhouse, power house, machine shops, mill shop lumber shed, sand house and

coal chute, steel and concrete construction; present shops at Birmingham will be razed when new buildings are completed. (Lately noted.)

Okla., Enid—St. Louis-San Francisco Ry. Co., F. G. Jonah, Ch. Engr., St. Louis, Mo., let contract to John M. Olson of Springfield, Mo., to erect shop buildings.

Railways.

Fla., Okeechobee City—Florida East Coast Railway Co. has let contract to M. J. Cole, of Jacksonville, Fla., for construction of about 20 mi. of single track roadbed from Okeechobee southward through Okeechobee and Palm Beach Counties. H. N. Rodenbaugh, Saint Augustine, Fla., is Gen. Mgr.

Miss., Schlater—Schlater & Minter City Railroad Co., capital \$40,000, reported incorporated with directors thus: Ed. Jones, of Schlater; A. B. Reese, D. S. Jones, W. R. Humphreys, H. Y. Frazier, C. S. Whittington, and E. R. King. Minter City and Schlater are about 10 mi. apart.

Road and Street Construction.

Ala., Alabama City—City plans paving Forest Ave. from 2 blocks west of Black Creek Bridge, to 7th Ave., and 7th Ave. from Forest Ave. to Dwight Sq.; estimated cost \$90,000; Walter Thompson, City Atty.

Ala., Gadsden—State Highway Comm., Montgomery, Ala., plans inviting bids in about 30 days to build Marshall-Etowah Highway from Attalla to Beas, via Cox Gap. W. S. Keller, State Highway Engr.

Ala., Geneva—City let contract to Southern Roads Co., Birmingham, Ala., for 1 mi. street paving on Commerce and Town Sts.; from L & N depot to canal house, and from Geneva County Reaper office, to Campbell St., bitulithic on concrete base; and to J. P. Carter, Geneva, for sidewalks, curbs and gutters, on Commerce, N. Commerce, Church and Live Oak Sts.; approximate total cost \$175,000; A. S. Hendricks, Clk. (Lately noted.)

Ala., Guntersville—State Highway Comm., Montgomery, Ala., will let contract July 6 to build 2½-mi. road from Boaz toward Attala; W. S. Keller, State Highway Engr.

Ala., Jasper—State Highway Comm., Montgomery, Ala., will receive bids until July 6 to grade, drain and gravel 22.8 mi. road in Walker County, from Jasper to Marion County line; approximate cost \$450,000; W. S. Keller, State Highway Engr. (Lately noted.)

Ala., Montgomery—State Highway Comm., received low bids for 11.4 mi. road and bridges between Dublin and Orion, on Montgomery-Troy Highway, Montgomery County, Proj. 74; J. R. and J. B. Miller, Baconton, Ga., at \$113,801.56, for gravel; R. D. Chambers, West Point, Ga., at \$77,555.96 for sand-clay; J. A. Peterson, Montgomery, Ala., at \$284,811.40, for concrete; J. R. and J. B. Miller, at \$37,994.08 for timber bridge; J. A. Peterson, at \$84,596.76, for concrete bridge; W. S. Keller, State Highway Engr. (Lately noted.)

Ala., Sheffield—City let contract to W. L. Hagler, at \$100,286 to lay 9 mi. sidewalks in Sheffield. Address The Mayor.

Ark., Fort Smith—City plans paving 21st street from L to I; L from May Ave. to 18th St.; 19th, from North L to Short L, including curbs and gutters; will also install sewer, water and gas systems. Address The Mayor.

Ark., Little Rock—City let contract to T. F. Connelly, at \$85,000, to pave 25 blocks in Improvement Dist. No. 325, including 19, 20, and West 20th to State, 21st, 22nd and 24th to Wright, High to Wolf and Marshall; asphalt, on concrete base; E. R. Wiles, Chmn., City Comm.

Fla., Daytona—Details under Land Developments.

Fla., Jacksonville—Details under Land Developments.

Fla., Miami—Details under Land Developments.

Fla., Miami—Dade County plans completing 4 mi. road from Fulford to site of station of Tropical Radio-Telegraph Co., on Curtiss-Bright ranch in Hialeah; estimated cost \$20,000.

Fla., Miami—F. H. Wharton, City Mgr., receives bids until June 12 to lay 5899 sq. yds. concrete sidewalks, and 2250 lin. ft. curb; plans, etc., on file, and from Chas. W. Murray, Director of Public Service.

Fla., Miami Beach—C. W. Tomlinson, City Clk., will receive bids until June 20, to pave, lay sidewalks, and concrete curbs and gutters and install sanitary sewers on various streets and alleys, including Collins and Sheridan Aves., Dade Blvd., Indian Drive, etc.

Fla., Punta Gorda—Charlotte County plans building section of State road No. 5, through County; \$200,000 bonds available. Address County Comms.

Fla., St. Petersburg—Details under Land Developments.

Fla., St. Petersburg—Pinellas County plans improving 7 roads; voted \$2,567,000; will also improve bridges; voted \$266,000; C. E. Burleson, County Engr. (Lately noted.)

Fla., Tallahassee—City plans expending \$300,000 for paving; W. Austin Smith, City Mgr.

Fla., Tampa—City receives bids until June 12 to grade, pave with asphalt block, and lay granite curb on following streets:

Amelia, from Ridgewood Ave. to Riverside Drive; Ybor St. from 21st Ave. to 19th Ave.; Albany and Melville Aves., from Swann Ave. to Atlantic Coast Line right-of-way; Inman Ave. from Albany to Melville; Corinne St. from 22nd to 26th Sts.; plans, etc., from City Engr.; Chas. H. Brown, Mayor-Commr.

Fla., West Palm Beach—State Road Dept., Tallahassee, Fla., plans building 4 roads and bridges in Palm Beach County as follows: 3 mi. across Hansen Grant on Stuart-Annie road; 7 mi. from Salerno to east lock of St. Lucie canal; 2 mi. in Tropical Farms, an addition to Palm City loop road, to connect with St. Lucie canal; loop on road west of Salerno to connect with Stuart-Annie road at Halpatiokee River; also plan constructing bridges on Sunrise Inn road at Port Sewall, and on Palm City loop road, across St. Lucie canal; H. B. Phillips, Chmn.

Georgia—State Highway Dept., Atlanta. Ga., let contracts for 3 roads as follows: Ware County, 6½ mi. semi-gravel road on Waycross-Alma road, to A. W. McWhorter, Birmingham, Ala., at \$33,958.91; for concrete bridge on same road to Savage & Amis, Newnan, Ga., at \$10,122.61; Troup County, 5½ mi. concrete road, between LaGrange and West Point, to Citizens Engineering & Construction Co., Savannah, Ga., at \$130,138.68; Elbert County, road between Elberton and Abbeville, S. C., to Teague Construction Co., Augusta, Ga., at \$65,809.96. (Lately noted.)

Ga., Augusta—City, Julian M. Smith, Mayor, plans expending from \$350,000 to \$400,000 to pave certain streets as follows: Twiggs St., from intersection at Walker & Washington, to paving at Milledgeville Road and 15th St.; 5th from Broad to Calhoun; Broad from Eve to County line, ending at Lake Olmstead Bridge; Walton Way from 15th to 13th, and Broad from 13th to 5th; small portion of Savannah Road; property owners to pay two-thirds; also to resurface following concrete and

brick streets, Reynolds, 9th, 13th, Monte Sano.

Ga., Tybee—Town plans 4.3 mi. street paving; voted \$110,000 bonds; E. George Butler, Mayor. (Lately noted.)

Ky., Ashland—City will receive bids until June 18 to grade, pave with bituminous double seal macadam, and lay two course combined curb and gutter on following streets: Butler, from alley north of Newman, to Moore; Holt, Hackworth and Hampton Sts., from Butler St. west; 6745 sq. yds. paving; 5600 lin. ft. curb and gutter; 5 manholes; 13 inlets; 1390 lin. ft. 12 and 24-in. sewer pipe; plans, etc., from City Engr.; W. M. Saltsbury, Mayor; H. L. Carroll, Clk. (Lately noted bids until June 5.)

Ky., Catlettsburg—City plans laying sidewalk on Franklin St.; City Engineer French, in charge.

Ky., Glasgow—Barren County plans expending \$15,000 to improve section of Glasgow to Burkesville road. Address County Comms.

Ky., Paducah—City let contract to Yancey & Johnson, Paducah, at \$160,000, for 67,000 sq. yds. concrete street paving; Henry A. Pulliam, Commr. of Public Works. (Lately noted.)

La., Arcadia—Town, Bertram Barnette, Mayor, will receive bids until June 18 to pave 1st St. from Maple to Hazel Sts.; 3091 sq. yds. 6-in. concrete; 1283 lin. ft. plain curb; catch basin complete with casting; plans, etc., from Town Clk., or Jas. W. Billingsley, Const. Engr., 700 Interstate Bank Bldg., New Orleans, La.

La., New Roads—Louisiana Highway Comm., Raymond Bldg., Baton Rouge, La., received low bid from Laiche & Miller, Plaquemine, La., at \$44,233.04, to grade, drain and gravel surface 11.35 mi. New Roads-Simmesport Highway, in Pointe Coupee Parish, from point 1½ mi. north of New Roads to Bayou Barre. (Lately noted.)

Maryland—State Roads Comm., 601 Garrett Bldg., Baltimore, Md., let contracts to improve 4 roads as follows:

Baltimore, 3 mi. concrete shoulders along Seminary Ave., between Falls and York roads, to A. C. Knight, 1916 Maryland Ave., Baltimore, at \$30,175; Montgomery County, 2 mi. concrete shoulders on Brookville Pike between District line and Woodside, to Corson & Gruman, Washington, D. C., at \$22,570; Montgomery County, 1 mi. between Darnestown and Seneca, to M. J. Grove Lime Co., Frederick, Md., at \$30,160; Worcester County, 1.5 mi. from Snow Hill toward Salisbury, to Hannon-Burroughs Co., Salisbury, Md., at \$30,655; rejected bids to resurface 11 mi. in Washington County, between Hagerstown and Sharpsburg, and to build .67 mi. in Garrett County, along Oak and 3rd Sts., Oakland; John N. Mackall, Chmn. (Lately noted.)

Maryland—State Roads Comm., 601 Garrett Bldg., Baltimore, Md., let contracts to build 2 roads as follows:

To Asher Farmer, Sudlersville, Md., at \$54,258, for 1.78 mi. Easton-Claiborne road, east of Oak Creek, Talbot County; to M. J. Grove Lime Co., Frederick, Md., at \$24,129, for .92 mi. in Montgomery County, from Frederick County line to Dickerson Crossing; John N. Mackall, Chmn.

Mississippi—State Highway Dept., Jackson, Miss., will receive bids until July 2, for 8 mi. road, between Woodland in Chickasaw County and Webster County line; and until July 6 for 1.7 mi. hard surfaced road between Starkville and A. & M. College, Oktibbeha County. F. A. Proj. No. 144; approximate cost \$38,000; H. C. Dietzer, State Highway Engr.

Miss., Belzoni—Humphreys County, Beat

One, plans building graveled roads; voted \$150,000 bonds. Address County Comms.

Miss., Carthage—State Highway Dept., Jackson, Miss., let contract to Central Construction Co., Carthage, Miss., at \$80,854.04 to grade and sand clay surface 12 mi. road, between Carthage and Philadelphia, Leake County; H. C. Dietzer, State Highway Engr. (Lately noted.)

Miss., Greenwood—City plans paving following streets: Market from Fulton to Henderson; Henderson from Market to Church; Church from Henderson to Dewey, and from Main to Lamar; Mississippi Ave. from Henry to corporation line; Cotton from Front to Church, and Front from Main to corporation line west; W. K. Clements, Mayor.

Miss., Senatobia—State Highway Dept., Jackson, Miss., and Tate County, let contract to McElrath & Rogers, Grenada, at about \$15,000 per mi. to gravel 2 sections Jefferson Highway, north and south through County; H. C. Dietzer, State Highway Engr.

Miss., Sumner—Tallahatchie County, will receive bids until June 29 to grade and gravel, road between Webb and Charleston; 33,400 tons road gravel; 10,000 lbs. reinforcement steel; plans, etc., from D. S. Henderson, Clk. of Board of Suprs., or H. L. French, Engr., Sumner.

Miss., Vicksburg—Warren County plans building 7 mi. North Scenic Highway, from end of novaculite road, north of the city, to Haynes' Bluff. Address County Highway Commissioners.

Missouri—State Highway Dept., Jefferson City, Mo., plans grading, constructing drainage structures, etc. on 4 roads as follows:

Livingston County, 4 mi. from Chillicothe to Carrollton, State Proj. Route 3; Madison County, 1 mi. from Fredericktown to Patton, State Proj. Route 9; Newton County, 3 mi. from Neosho to Goodman, State Proj. Route 1, Sec. 107; St. Louis County, 2 mi. rock asphalt, from St. Louis to Manchester, State Proj. Route 12; B. H. Piepmeier, Ch. Engr.

Mo., Cape Girardeau—City plans opening bids about July 1 to pave section between street car tracks on Broadway, from Middle to Pacific and from Main to Lorimer Sts.; Ed. Saller, City Engr.

Mo., Clinton—State Highway Dept., Jefferson City, Mo., let contract to Joseph Pope, Jefferson City, at \$200,000 for 6 mi. concrete road near Windsor, Henry County; B. H. Piepmeier, Ch. Engr.

Mo., Columbia—City let contract to Clyde Stewart, to pave with 7-in. reinforced concrete, Paris road from St. Joseph to St. James Sts.; John S. Bicknell, City Clk. (Lately noted.)

Mo., Joplin—City plans expending \$9700 to pave with one course concrete Joplin St. from 1st to 2nd, and Jackson Ave., from 2nd to 5th; O. P. Mahoney, Commr. of Streets.

Mo., Joplin—O. P. Mahoney, Commr. of Streets, let contract to H. Kost Construction Co., at \$1.88 sq. yd. to pave Byers Ave. from 1st to 4th Sts.; at \$2.08 sq. yd. for one course concrete on Pearl Ave. from 7th to 9th Sts., and at \$1.10 sq. yd. for asphalt on Pearl Ave. from 9th to 10th Sts.; also let contract to Spooner Construction Co., to pave Sergeant Ave. from 1st to 3rd Sts. (Lately noted.)

Mo., Poplar Bluff—City let contract to Regehardt Construction Co., at \$40,000, to pave 15 blocks, including B and Bartlett Sts. in East Poplar Bluff. Address The Mayor.

Mo., St. Joseph—St. Joseph Stockyards Co., let contract to Land Construction Co., St. Joseph, Mo., at \$10,000, to pave Packers Ave., from Swift & Co.'s plant, ¼ mi. north to

new County Lake road; asphaltic concrete on 6-in. concrete base. (Lately noted.)

Mo., St. Joseph—Board of Public Works will receive bids to pave with Portland cement concrete Sacramento St. from 20th to 26th, and 31st St. from Jule to Sylvania, with asphaltic concrete.

North Carolina—State Highway Comm., Frank Page, Chmn., Raleigh, N. C., will receive bids until June 27 to build 27 road projects as follows:

141—Halifax County, 18.7 mi. soil road from Halifax to Weldon, route No. 40; 146—Hertford-Bertie Counties, 6.4 mi. soil road from Northampton County line to Aulander, route No. 305; 151B—Hyde County, 4.4 mi. sand asphalt, from Swanquarter to Rosebay, route No. 91; 168—Northampton County, 16.8 mi. soil road from Jackson to Hertford County line, route No. 305; 189-230-293—Pitt, Green and Wilson Counties, 20.5 mi. hard surface road from Wilson to Farmville, route No. 91, and to Greene County line, route No. 12; 213—Craven County, 10.4 mi. hard surface road from Fort Barnwell to Jasper, route No. 20; 295—Wilson County, 8.6 mi. resurfacing north and south of Wilson, route No. 40. 438—Harnett County, 3.8 mi. hard surface from Duke to Dunn, route No. 60; 506B—Alamance County, .3 mi. hard surface east and west of Haw River Bridge, route No. 10; 464—Person County, 11.6 mi. soil road from Roxboro to Granville County line, route No. 57; 507—Alamance County, 4 mi. penetration macadam from Graham to Belmont, route No. 62; 541—Guilford County, 4.3 mi. penetration macadam from Greensboro toward Julian, route No. 60; 556—Montgomery County, 3.5 mi. penetration macadam from Mt. Gilead toward Richmond County line, route No. 51; 608B—Anson County, 3.8 mi. grade and construct drainage structures from Polkton to Peachland, route No. 20; 672—Rowan County, 3.5 mi. hard surface from Iredell County line to end of present macadam road, route No. 10.

702B—Allegheny County, 6.4 mi. soil road from end of No. 702A to Sparta, route No. 69; 750B—Stokes County, 8.6 mi. soil road from Big Creek to Danbury, route No. 89; 802—Avery County, 5.7 mi. macadam road from Newland to Cranberry, route No. 175; 812—Burke County, 4.9 mi. grade and construct drainage structures, from Glen Alpine to McDowell County line, route No. 10; 836—Henderson County, 10 mi. grade and construct drainage structures from Hendersonville to Buncombe County line, route No. 29; 837B—Henderson County, 5.8 mi. hard surface on macadam base, from Hendersonville to Tuxedo, route No. 29; 851-889—McDowell-Yancey Counties, 19 mi. grade and construct drainage structures, from Central Highway to Meaville, route No. 104; 930A—Graham County, 2.9 mi. macadam, between Topton and Robbinsville, route No. 108; 961A—Macon County, 8.3 mi. macadam from Franklin toward Bryson City, route No. 286.

N. C. Burlington—City will receive bids until June 22 to grade, and pave certain streets: 8000 lin. ft. concrete curb and gutter; 8000 sq. yds. concrete pavement; also to lay 2000 ft. water main, and 1800 ft. sanitary sewer; storm drainage, etc.; plans, etc., from Earl B. Horner, Mayor, and Ludlow, Engineers, Winston-Salem, N. C.

N. C. Cornelius—City, J. B. Reading, Mayor, let contract to John L. Linder, Pittsboro, N. C., at \$21,000 to grade, pave and lay sidewalks on various streets. (Lately noted.)

N. C. Gastonia—Gaston County plans improving 3 sections of roads as follows: Will

pave road from Bessemer School over the mountain, via overhead bridge, to connect with State Highway west of Whetstone mountain; road from Belmont-Mount Holly Highway near Catholic College to new Belmont Mills; widen curve in road by college. Address County Commrs.

N. C., Henderson — City plans additional street paving; voted \$200,000 bonds; A. A. Bunn, Mayor. (Lately noted.)

N. C., Henderson—Vance County plans 1 mi. paving beyond city limits, on Epsom road. Address County Commrs.

Okla., Bartlesville—State Highway Dept., Oklahoma City, Okla., plans 40 mi. concrete road running north and south through Washington County; \$700,000 available. (Previously noted.)

Okla., Durant—S. O. Maxey & Co., Durant, received contract at \$44,640.71, to pave Elm St. from 6th Ave. to 16th St. Address The Mayor.

Okla., Muskogee — City let contract to Muskogee Construction Co., Muskogee, at \$21,307.18, to pave Columbus St. from 14th to Junction; 16th from Boston to Columbus, and 21st from Okmulgee to Boston; also to Ajax Construction Co., Oklahoma City, at \$3639.34, to install sewer in Dist. No. 96; John March, Engr. (Lately noted.)

Okla., Perry—Noble County will improve roads; will vote June 12 on \$625,000 bonds. Address County Commrs. (Lately noted.)

Okla., Ponca City—City plans expending \$140,000 to pave 37 additional blocks, including 19 on 8th St., 12 on Oak and 6 on S. 2nd Sts. Address City Commrs.

Okla., Wagoner—Wagoner and Rogers Counties plan improving highway along County line, from west of Inola, in Rogers County to Tulsa. Address County Commrs.

S. C., Abbeville—Abbeville County will receive bids until June 20 for 11.8 mi. top soil road from W. J. Milford's via Fairs Bridge and Level Land, known as Level Land Road; plans, etc. from H. B. Humbert, County Engr., Abbeville; L. W. Keller, Secy. of County Highway Comm. (Lately noted.)

S. C., Greenwood—Greenwood County Highway Comm. plans building Calhoun Highway through County to Laurens County line, from Greenwood to Coronace, then to Saluda River, near Puckett's Ferry.

S. C., Laurens—Laurens County plans building 3 roads; will vote July 17 on \$275,000 bonds; \$118,000 for Calhoun Highway to connect Greenwood and Laurens County. Address County Commrs.

S. C., Seneca—Town plans paving certain streets in business section; will note June 22 on \$48,000 bonds. Address The Mayor.

S. C., Spartanburg—State Highway Dept., Columbia, S. C., let contract to Southern Paving Construction Co., Chattanooga, Tenn., at \$62,000, for 1.8 mi. asphaltic concrete road on S. H. No. 10, from Spartanburg through Arkwright. (Lately noted.)

Tenn., Dandridge—Jefferson County Court apportioned \$182,000 for 2 roads as follows: \$90,000 to complete Straw Plains—Jefferson City road to Hamblen County line; \$92,000 for Straw Plains-Dandridge and Newport road, via Piedmont.

Tenn., Dyersburg—Dyer County Pike Commission, let contract to Lawrence Construction Co., Jackson, Miss., at about \$100,000 for 11 mi. hard surface road at Dyersburg.

Tex., Austin—City plans paving Dam Blvd., from I. and G. N. bridge to Deep Eddy Ave.; Geo. Searight, Street Commr.

Tex., Beaumont—City let contract to Houston Construction Co., Houston, at \$39,416 to resurface with sheet asphalt, Forsythe,

Park, Crockett Sts., and Railroad Ave.; to Uvalde Rock Asphalt Co., San Antonio, at \$306,770, to pave Liberty, Grand and Pennsylvania Aves., Washington Blvd., Neches and 5th Sts., and Broadway, Geo. J. Roark, City Mgr.

Tex., Beaumont—Magnolia Petroleum Co., let contract to Houston Construction Co., Houston, at \$15,000, to pave Madison Ave., and Grove St. leading to refinery.

Tex., Corpus Christi—U. S. Dist. Engr., Fort Worth, approved plans to build Robstown-Bishop section of S. H. No. 12; 18-ft. gravel base, 1-in. bituminous topping; Nueces County, F. A. Proj. No. 342; cost \$213,801.20; federal aid, \$22,000; Calvin E. Cook, County Engr.

Tex., Floresville—Wilson County Commrs. Court, J. E. Canfield, County Judge, Precincts Nos. 1, 3 and 4, plan building road from Glazier to Gulf Highway; voted \$250,000 bonds. (Lately noted.)

Tex., Fort Worth—City Comm. will receive bids to pave E. 14th St. from Commerce to Jones; E. 4th, from Calhoun to Harding; Hillcrest, from Camp Bowie Blvd. to Crestline road; Perry Ave., from Forest Park Place to Gibson Ave.; Gibson Ave., from Forest Park Place to Perry Ave.; Clover Lane, from Camp Bowie Blvd. to Clarke Ave.; will also pave Calhoun, Edwin, and Dorothy Lane.

Tex., Georgetown—Williamson County plans building S. H. No. 36-B, from Florence, connecting with S. H. No. 2-C, north of Georgetown; State Highway Comm., Austin, assures \$40,000 federal aid; J. D. Love, County Judge.

Tex., Hallettsville—Ch. Engr. U. S. Bureau of Public Roads, Washington, D. C., approved plans for 21 mi. S. H. No. 3-B; Lavaca County, F. A. Proj. No. 373; estimated cost \$175,128; W. H. Koether, County Engr.

Tex., Jefferson—Marion County plans surfacing, with bituminous topping, S. H. No. 35-B, from Jefferson to Louisiana State line; State Highway Comm., Austin, granted \$159,694 federal aid; P. B. Lewis, County Judge.

Tex., Johnson City—Blanco County, Precinct No. 1, plans building S. H. No. 46 in Blanco city section; voted \$17,500; J. W. Pickett, County Engr.; Wm. Martiny, County Judge.

Tex., Leakey—Real County plans grading and constructing drainage structures on 18 mi. S. H. No. 41; estimated cost \$70,000, federal aid \$35,000; W. E. Simpson, County Engr., National Bank of Commerce Bldg., San Antonio, Tex.

Tex., Marshall—Ch. Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for 23.2 mi. bituminous topping on Jefferson Highway, Harrison County, \$36,972; Geo. A. McClellan, County Engr.; J. W. Scott, County Judge.

Tex., Nacodoches—City let contract to J. P. McDonald, Austin, to pave with granite concrete, 15,000 sq. yds. streets; to Panhandle Construction Co., Lubbock, Tex., to pave with vertical fiber brick, on 5-in. concrete base, with sand cushion, 17,000 sq. yds. streets in business district; will later let contracts to pave 6000 yds. streets in residence section. Address The Mayor.

Tex., Paris—Lamar County plans building 11 mi. 18 ft. concrete road on Paris-Honey Grove road, S. H. No. 5; F. A. Proj. No. 395; estimated cost \$328,000; federal aid \$40,000; W. D. Lawrence, County Judge.

Tex., San Antonio—Bexar County, Augustus McCloskey, County Judge, plans 3.26 mi. S. H. No. 3, from city limits east; gravel surface; 1-in. bituminous topping; estimated cost \$377,947.05; 50 per cent federal aid asked; A. C. Pancoast, County Engr.

Tex., Sierra Blanca—Hudspeth County, J. W. Carter, County Surveyor, El Paso, Tex., plans building 7 mi. S. H. No. 1; estimated cost \$20,000; J. M. Walling, County Judge, Sierra Blanca.

Tex., Uvalde—Ch. Engr. U. S. Bureau of Public Roads, Washington, D. C., approved plans for 14.1 mi. 18 ft. gravel bituminous surfacing on S. H. No. 3; Uvalde County, F. A. Proj. No. 289; estimated cost \$137,330; H. C. King, County Judge.

Tex., Waxahachie—Ellis County plans improving roads; will vote June 30 on \$750,000 bonds. Address County Commrs.

Va., Farmville—State Highway Comm., Richmond, Va., let contract to Perkins & Barnes, Blackstone, Va., at \$43,518, for 6 mi. top soil road in Prince Edward County, between Burkville and Keysville; H. G. Shirley, Chmn.

Va., Petersburg—City will widen Brown St. to 40 ft. from Guarantee to Pine Sts. Address The Mayor.

Va., Portsmouth—Norfolk County plans building 6 roads as follows: Butt's Station road to Centerville turnpike; North Landing road; Mount Pleasant road to North Landing road; Portlock road to Indian River Park, and road to Texas Co.'s plant; R. B. Preston, Engr. Address Comm. of Roads and Bridges.

W. Va., Charleston—City will receive bids until June 15 to lay about 20,000 sq. yds. paving; asphalt surface with 6-in. base, combined curb and gutter; brick with 5-in. base, integral curb; alleys, 7-in. concrete; B. A. Wise, City Mgr.; H. L. Campbell, Engr. (Lately noted.)

W. Va., Clarksburg—City will receive bids until June 19 to pave and improve following streets: Harrison, Wilson, N. 14th, Jackson, S. Chestnut, and Oak Sts., and Ham-mill Ave.; 1100 cu. yds. reinforced concrete paving; 5250 sq. yds. 3-in. vertical fibre brick; 10,000 lin. ft. 6-in. curb; will install sanitary sewer systems in Kelley Hill, Point Comfort, and Industrial, and storm and other sanitary sewers in other sections; 10,110 lin. ft. 6, 8, 10 and 30-in. vitrified pipe; 35 man-holes; plans, etc. from City Mgr. and City Engr.; D. H. Hamrick, City Clk.

W. Va., Hamlin—Lincoln County Court, will receive bids until June 15 to build 2 sections of road in Washington Dist., between Griffithsville and Charleston.

W. Va., Huntington—State Road Comm., Charleston, W. Va., plans improving Swan Creek road, from end of Ohio River paving to Ferry.

W. Va., Martinsburg—Berkeley County, will receive bids until June 23 for 1 mi. concrete paving on Hedgesville-North Mountain road; plans, etc., from Paul H. Martin, County Clk.

W. Va., St. Albans—City will receive bids until July 7 to pave with bituminous macadam, following streets: 4000 ft. on Highland St.; 3000 ft. on Park St. and 350 ft. on 8th St.; approximate total cost \$87,000; H. O. Palmer, City Clk., St. Albans; Ernest Bruce, Engr. in charge, Boyd Bldg., Charleston, W. Va. Lately noted. (See Mch. Wanted—Paving Materials; Paving Equipment.)

W. Va., St. Albans—City will receive bids to pave College Hill road from 8th to corporation line; Lee from Kanawha Terrace to Weimer St., in Weimer Addition; also to pave 7th, Drew and Church Sts., 5th and 2nd Aves. Address The Mayor.

W. Va., Wheeling—State Road Comm., Charleston, W. Va., plans repairing River

road, between Warwood and Short Creek; also re-floor bridge at Short Creek; E. B. Carskadon, Sec.; H. E. Snyder, Divisional State Road Engr.

W. Va., Williamson—Mingo County Court, Hardee Dist., plans hard surfacing Tug River Highway through district; will vote June 23 on \$160,000 bonds; also County Court will let contract to improve Glen Alum-Ben Creek road from Glen Alum station to Warncliffe-Gilbert road at forks of Ben Creek.

W. Va., Williamson—Mingo County, Warfield Dist., plans expending \$92,000 to hard surface Tug River Highway, and \$64,000 for other roads in district; voted \$156,000 bonds. Address County Commrs. (Lately noted.)

W. Va., Wheeling—City will receive bids until June 16 for following improvements: Improve Highland road, Glenwood; lay 500 sq. yds. cobble paving on 24th St. from Wood St. to top of hill; lay 204 ft. 24-in. sewer pipe; erect concrete retaining wall at 4th St., Fulton; plans, etc., from Harry Conrad, City Engr.

Sewer Construction.

Ark., Fort Smith—Details under Road and Street Construction.

Ark., Pine Bluff—Walter C. Hudson and Pinchback Taylor let contract at \$16,500 to Guest Engineering Co., Pine Bluff, to install 13,000 ft. of sewer in 80-acre subdivision.

D. C., Washington—District Commrs. let the following contracts for sewer construction: to W. F. Brenizer Co., 305 Q St., N. W., Washington, at \$53,840 for the construction of an upper Potomac interceptor between aqueduct bridge and Potomac Ave.; to Adam McCandish, at \$20,939 for construction of Falls Branch storm sewer between River Road and Davenport St., Wisconsin Ave. and Fessenden St.; to William F. Cush, at \$7715 for construction of Sumner road service sewer from Bolling field to Nichols Ave., at \$1518 for Queda St. service sewer from Broad Branch Road to Thirty-third St. and for Military road service sewer between Connecticut Ave. and Thirty-second St. (Lately noted.)

Fla., Daytona—Details under Land Developments.

Fla., Jacksonville—Details under Land Developments.

Fla., Miami—Details under Land Developments.

Fla., Miami Beach—Details under Road and Street Construction.

Ga., Atlanta—W. P. Price, Pur. Agt., receives bids until June 18 to furnish labor and material to construct sewers comprising group No. 2 also the Mayson Ave., Maude St., Glendale Ave., Foote St., and Boulevard De Kalb sanitary trunk sewer to the Wylie trunk sewer.

Ga., Marietta—City, Gordon B. Gann, Mayor; bids opened June 12 to construct approximately 14,000 ft. of sanitary sewer to be installed in southern section of city; specifications etc. from Clarence E. Power, City Clerk or from W. W. McCulloch, Const. Engr., Marietta.

Ky., Ashland—Details under Road and Street Construction.

Md., Glenburnie—Details under Md., Linthicum Heights.

Md., Linthicum Heights—Anne Arundel County Sanitary Comm., Fred M. Warnken, tary road service sewer between Connecticut Chmn., Annapolis, Md., will receive bids until June 21 to construct sewers in the Glenburnie Sanitary Dist., Contr. No. 1-S, containing approximately 3200 lin. ft. of 6-in. vitrified pipe,

including house connections, 2506 lin. ft. of 8-in. and 3359 lin. ft. of 10-in. vitrified pipe, 158 lin. ft. manholes, including necessary fittings, excavations, back fill and incidental work, and in Linthicum Heights Sanitary Dist., Contr. No. 2-S, containing approximately 1191 lin. ft. of 6-in. vitrified pipe house connections, 15,899 lin. ft. of 8-in. and 1682 lin. ft. of 10-in. vitrified pipe sewer, 473 lin. ft. of brick or concrete manholes including necessary fittings, drop connections, excavations, back fill, etc. (Lately noted.)

Miss., Shuqualak—City votes June 18 on bond issue for sanitary and storm sewers; J. W. Combs and L. T. Anderson, Election Comm.

N. C., Burlington—Details under Road and Street Construction.

Okla., Muskogee—Details under Road and Street Construction.

Okla., Tulsa—City voted on \$1,000,000 bonds; carried vote for \$100,000 bonds for two suburban fire stations and \$150,000 bonds for police station and jail; defeated \$600,000 bonds for sewer and \$150,000 bonds Mohawk park project, will call new election in September to vote on sewer and parks; H. F. Newblock, Mayor. (Lately noted.)

W. Va., Clarksburg—Details under Road and Street Construction.

W. Va., Huntington—City, A. B. Maupin, City Engr., opens bids June 16 to construct lateral sewer in Jarrett St.

W. Va., Wheeling—Details under Road and Street Construction.

Telephone Systems.

Fla., Miami—Details under Land Developments.

Fla., West Palm Beach—Western Union Telegraph Co., J. W. King, Mgr., will enlarge and equip local office, expending about \$10,000.

Ky., Jamestown—Chifty Creek Telephone Co., incorporated by L. L. Mann, G. M. Choate and others.

Ky., Midway—Midway Telephone Co., incorporated by W. A. and F. M. McKenney and others.

Textile Mills.

Ala., Opelika—Opelika Mfg. Co., incorporated with John V. Denson, Pres., Opelika, W. S. Freeman, Treas. and Gen. Mgr., Talladega, Ala.; have acquired the Opelika Cotton Mills with 18,000 spindles on fine yarns, and will make improvements. (Lately noted.)

N. C., High Point—Millis Cotton Mills, capital \$300,000, incorporated by H. A. Millis, R. R. Rogers, C. E. Hayworth.

S. C., Clearwater—Seminole Mills, W. C. Langley, Pres., reported to double capacity of present plant; construct weave shed containing about 500 looms; erect 100 houses for employees, etc.; amount to be expended \$500,000.

S. C., Easley—Captain Ellison S. McKisick and associates purchased the Alice Mills containing 24,576 spindles and 532 looms for manufacture of print cloth.

S. C., Gaffney—Dr. W. K. Gunter and others acquired Palmetto Damask Mills.

Tenn., Chattanooga—M. and D. Hosiery Mills, capital \$125,000, incorporated by E. H. Grasser, J. W. Anderson, T. Pope Shepherd.

Tenn., Chattanooga—Thatcher Spinning Mill will erect warehouse.

Tex., El Paso—Winchester Cooley, V. P. City National Bank, El Paso, and associates plan to build \$500,000 cotton mill; will organize company.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., El Paso—Haymon Krupp, A. P. Coles and others interested in establishing \$500,000 cotton mill.

W. Va., Elkins—West Virginia Woolen Mills, Inc., capital \$10,000, incorporated by Charles A. Grapes, Albert Felton, R. E. Senior; to manufacture woolen knit goods.

Water Works.

Ala., Talladega—Talladega Light and Water Comsn. and City Comsn. let contract at \$162,000 to Merkle Machinery Co. of Kansas City, Mo. for water works system; water to be obtained from Taylor's mill about 4 mi. south east of city, and will be capable of supplying population of 20,000; entire cost of system, including pipe, electric transmission system, engineering, etc., \$265,000. (Lately noted.)

Ark., Fort Smith—Details under Road and Street Construction.

Ark., Paragould—City contemplates extending water works system, construct pumping plant, two 125,000 gal. concrete reservoirs, make approximately 8000 ft. of cast iron extension to mains, place new well and install centrifugal pump, etc.; Address The Mayor.

Fla., Daytona—Details under Land Developments.

Fla., Jacksonville—Details under Land Developments.

Fla., Miami—Details under Land Developments.

Mo., Ava—City contemplates voting on bond issue for water works system. Address The Mayor.

N. C., Burlington—Details under Road and Street Construction.

N. C., Greensboro—City Council is considering installation of boiler at pumping station; 175 lbs. pressure.

Okla., McAlester—City voted \$275,000 bonds for water works improvements. Address The Mayor.

Tenn., Madisonville—City will receive bids until July 3 to furnish material, machinery, appliances and labor to build municipal water works system; work includes small concrete dam and embankment; concrete and brick coagulating basin combined with concrete and brick pump; concrete and brick filter house; complete filter equipment for single unit; 4 centrifugal pumps, 2 electric motors automatic control, 2 gasoline engines with piping, wiring, etc.; complete distribution system with 2, 4 and 6-in. mains, valves and hydrants; 75,000 gals. hemispherical bottom steel tank with tower, total height 120 ft.; The Ambler Engineering Co., Engr., 610 Travelers Bldg., Richmond, Va., M. F. Valentine, Mayor. (Lately noted.)

Tex., Baird—City will receive bids June 30 to construct water works improvements, including labor and material for approximately 1000 ft. of tunnel, 3½x4 ft., approximately 30 ft. underground, with 6-in. dry wall and 6-in. concrete cover; to furnish and lay about 10,000 ft. of water pipe, furnish and install fire hydrants, dig and wall well for storage, etc.; bids received for whole or in units; J. I. McWorter, Mayor.

Woodworking Plants.

Ga., Washington—Staves—Davis & Kvaternick will establish plant at new site to manufacture 10,000 staves daily.

La., Monroe—Universal Wheel & Rim Co., capital \$150,000, incorporated by Samuel Kaplan, J. E. Doughtie and Joe Isaacman.

Miss., Hattiesburg—Southern Oak Flooring Co., capital \$50,000, incorporated by D. P. N. Hackney, Hattiesburg; R. M. Redding,

Dallas, Tex.; Chas. R. Currie, 7925 Spruce St., New Orleans, La.

Miss., Moss Point—Gulf Woodenware Co., will erect buildings 50x60-ft., 15x30-ft. and four 10x40-ft. and install mill and wood turning equipment for the manufacture of hardwood products. (Lately noted.)

N. C., Charlotte—Charlotte Woodworking Manufacturing Co., (lately noted incorporated, capital \$75,000) organized with Louis H. Asbury, Pres.; J. E. Propst, Sec.-Treas. and Mgr.; let contract to J. P. Propst, Church St., Charlotte, to erect 70x144-ft. and 14x70-ft. brick building, majority of equipment purchased for cabinet and general mill work; Louis H. Asbury, Archt., Realty Bldg., Charlotte.

N. C., Rutherfordton—Mill Work—Taylor Lumber Co., J. L. Taylor will erect three structures 18x80-ft., 22x75-ft., and 54x80-ft.; in market for all material including plate glass, steel girders, lintels for truss work. (See Machinery Wanted—Building Materials.)

FIRE DAMAGE

Ala., Akron—J. F. Ford's hotel and store; Dan Ramey's dwelling.

Ark., Helena—Best Theatre. Address The Owner.

Ark., Hope—Cottage Hotel; loss \$20,000. Address The Proprietor.

Ark., Mount Ida—G. L. Graham & Sons planing and saw mills.

Fla., Lakeland—H. C. Edmonson's commissary at Tanerode, south of Medulla.

Ky., Cloverport—Murray Roofing Tile Co.'s warehouse; loss \$15,000.

Ky., Paducah—David Bullmer's packing house at 216 South 2nd St., loss \$30,000.

Md., Baltimore—Drying room of the Charles L. Cunningham Co.'s plant, Garrison lane near Baltimore St.; loss between \$5000 and \$10,000.

Miss., Jackson—Hospital, Sunflower Plantation, Parchman Penitentiary Farm, F. H. Butler, Supt.; loss \$68,000. Address J. J. Coman, Sec., Mississippi State Penitentiary Comn., Jackson.

Miss., Merigold—W. B. Parks' store; loss \$10,000.

N. C., Dunn—Dawson Lumber Co.'s plant; loss \$10,000.

N. C., Greensboro—G. W. Dawson's residence, Bessemer community, 3 miles east of Greensboro; loss \$8000 to \$10,000.

N. C., Salisbury—Heilig & Deas' shoe store; Southern Footwear Co.'s building; Geneva Shop; Dave Oestrichers' store; Buerbaum's Book Store.

N. C., Winston-Salem—E. W. O'Hanlon, Ins.'s drug store.

S. C., Greenville—City Line Store on Laurens Road.

S. C., Greenville—Grant Bros.' warehouse on W. McBee St.

Tenn., Dyersburg—Rucker Building occupied by Green's Economy Store and Imperial Grocery Co.; loss \$15,000.

Tex., Orange—Lutcher & Moore Lumber Co.'s boiler house; loss \$20,000.

Tex., Terrell—Dr. W. F. Alexander's residence; loss \$25,000.

BUILDING NEWS BUILDINGS PROPOSED

Apartment Houses.

La., New Orleans—John A. Rodick will erect \$20,000 apartment house, Hurst and Arabella Sts.; 2 stories; frame and stucco; 4 suites; H. F. Hinricks, Archt., 7336 Irma St., New Orleans.

La., New Orleans—J. H. Meyer, 304 S. Clark St., will erect \$12,500 two-story apartment house, Freret and Gen. Pershing Sts.; 2 suites.

Mo., Springfield—Charles Lawrence, 725 S. Kansas Ave., will erect \$100,000 Rock Castle Apts., 200 block Mt. Vernon St.; 24 suites; 2 stories; field stone; 80x143 ft.; 2 and 3-room efficiency suites; built-in beds, kitchenettes, gas stoves, etc.; roof garden; 25-car garage in basement; Edward Smart, Springfield, supervising stone work.

N. C., Charlotte—Frank F. Jones purchased site, Queens Rd. and Providence Place, Myers Park, and plans to erect 8-suite apartment house; 2 stories; semi-detached; rough faced brick; tile roof.

Okla., Tulsa—E. R. Rabon will erect \$35,000 apartment house, 1242 S. St. Louis St.; 2 stories; brick; 8 suites.

Okla., Tulsa—Robert P. Parks will erect 4 three-story and basement apartment buildings of 6 suites each at 21st and Sunset Sts., Sunset Park; brick; each suite to have 4 or 5 rooms; will include efficiency suites; steam heat; total cost \$125,000.

Tenn., Memphis—S. Malkin will erect \$20,000 apartment house, 1447 Poplar Ave.; brick veneer; 20 rooms; 4 suites; foundation begun.

Tex., Dallas—C. W. Beale will erect \$16,000 apartment house, 1026 King's Highway; 16 rooms; brick veneer; 8 suites.

Association and Fraternal.

La., Baton Rouge—Young Men's Christian Assn., B. B. Taylor, Pres., new Reymond Bldg., will erect fireproof building; probably concrete with brick facing; 75x112 ft.; 4 stories; concrete floors; interior tile; rolling partitions; electric lights; W. F. Shattuck, Archt., 19 S. LaSalle St., Chicago, Ill.; bids opened June 11 at Roumain Bldg., Baton Rouge, for excavation and installation of foundation. (Previously noted.)

La., Shreveport—Benevolent Protective Order of Elks will erect \$450,000 building east of present structure; 8 stories; concrete and steel frame; limestone and pressed brick; swimming pool, lockers, showers, kitchen, dining room, etc., on first floor, 40x90-ft. gymnasium, overhead running track, gallery to seat 500 on second floor, bachelor apartments on next four floors, lodge room on top floor; roof garden; Albert F. Neild, Commercial Bank Bldg., and C. W. King, First Nat. Bank Bldg., Asso. Archts., Shreveport. (Previously noted.)

Tenn., Chattanooga—Ancient Free and Accepted Masons plan to erect 14-story building, 7th and Cherry Sts.; cost \$1,000,000; fireproof; reinforced concrete and steel; parking space for automobiles on first floor; offices above; Geo. A. Fuller Co., Fuller Bldg., New York, probable contractors.

Tex., San Antonio—Young Men's Christian Assn., R. L. Hillyer, Chmn. Bldg. Comm., will

erect \$240,000 building, Navarro and Martin Sts.; 4 stories; brick; about 106x125 ft.; concrete floors and foundation; flat roof; hollow fireproof and interior tile; metal doors; vaults; vault lights; ventilators, rolling partitions; steel sash and trim; wire glass; interior plans by Sherman W. Dean, Archt., Bldg. Bureau, International Comm., Y. M. C. A., 347 Madison Ave., New York; Adams & Adams, Archts., San Antonio. (Previously noted.)

Bank and Office.

Miss., Jackson—Lamar Life Insurance Co., C. W. Welty, Vice-Pres., will erect \$500,000 office building, old Hotel Norvelle site; 10 or 11 stories; first 2 floors, 82x120 ft., balance 52x120 ft.; about 200 offices; Sanguinet, Staats & Hedrick, Archts., Fort Worth, Tex.; N. W. Overstreet, Asso. Archt., Jackson. (Previously noted.)

Okla., Pawhuska—First National Bank will erect building; Robt. E. Peden & Co., Archts., Kansas City, Mo.

S. C., Greenwood—Greenwood Cotton Mill, J. C. Self, Pres., will erect \$9000 addition to office building; 27x42 ft.; 2 stories; maple and tile floors; tile roof; concrete vaults; 1-pipe steam heat; Jas. C. Hemphill, Archt.; Greenwood; construction by employees. (See Mchy. Wanted—Flooring (Maple); Tile (Promenade).)

Tex., Houston—Harris County Medical Assn. and Houston Dental Assn., will erect \$3,000,000 office building for physicians, surgeons and dentists, at Rush Ave. and San Jacinto St.; site 174x138 ft.; 18 stories; fireproof; Indiana limestone; interior finished in marble and marble tile; highspeed micro-leveling elevators; central telephone switchboard; garage and repair shop in basement; stores on first floor; 16 office floors; assembly room, club-rooms, promenades, etc., on seventeenth floor and verandas, libraries, lounges, grill and private dining rooms on top floor; C. Howard Crane, and Kenneth Franzheim, 127 N. Dearborn St., Archts.; both Chicago, Ill.; Guardian Trust Co., Houston, arranging finances.

W. Va., Morgantown—John Natlas, Pres., Morgantown Florist Co., plans to erect 2 office buildings on Spruce St.; total cost \$75,000.

Churches.

Ala., Andalusia—Church of Christ, Morgan Forsyth and others, Bldg. Comm., will erect \$10,000 brick building; Andalusia Mfg. Co. and Owens Bros., Elba, preparing drafts.

Fla., Lakeland—All Saints' Episcopal Church will erect \$26,500 building; Spanish mission type; stucco over hollow tile and steel; 2 stories; 50x117 ft.; concrete, wood and steel lumber floors; concrete foundation; Spanish mission tile roof; ornamental terra cotta; H. D. Mendenhall, Archt., Lakeland. (Lately noted.)

Fla., South Jacksonville—First Baptist Church, Rev. C. G. Dilworth, Pastor, will erect 2-story and basement Bible school building; kitchen, nursery dept., heating plant, etc., in basement; auditorium and 2 classrooms on first floor to seat 425; class and 2 assembly rooms on second floor; folding partitions; Mark & Sheftall, Archts., Jacksonville; plans to erect church building later.

Ga., Adel—Baptist Church will erect \$15,000 building; brick; 1 story with balconies; 72x76 ft.; rift pine floors; concrete foundation; composition roof; city lights; rolling partitions; metal ceilings; day labor with J. A. Rowland, Norman Park, Supt.; heating and plumbing not let. Address A. D. Wiseman, Adel. (See Mchy. Wanted—Roofing; Seating; Church.)

Ga., Columbus—St. Luke M. E. Church, F. J. Dudley, Chmn., Bldg. Comm., will erect \$60,000 addition; 2 stories; brick; wood joist and concrete floors; concrete foundation; steam heat; Hickman & Martin, Archts., Columbus. (Lately noted.)

Ga., Savannah—Trinity Methodist Church, J. S. Sims, Chmn., will remodel building and add 1 story to Sunday school; install heating plant and lighting system; total cost \$25,000.

Ga., Savannah—Wesley Monumental Methodist Church, Rev. Dr. A. J. Thomas, Pastor, plans to erect addition.

La., Baton Rouge—First Presbyterian Church, Dr. H. H. Tompson, Pastor, plans to erect \$80,000 building; \$25,000 available.

Md., Baltimore—Wilkins Ave. M. E. Church, South, will erect \$100,000 church and Sunday school building; brick, stone, steel and concrete; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; bids opened June 21; following contractors estimating: John Waters Bldg. Co., 23 E. Centre St.; Consolidated Engineering Co., Calvert Bldg.; H. Calvin Barnes Co., 113 E. Franklin St.; John Hiltz & Sons Co., 343 St. Paul Place; Thos. Hicks & Sons, 106 W. Madison St.; J. E. Richards; C. C. Watts, 407 E. 25th St.; Cogswell-Koether Co., 406 Park Ave.; Chas. L. Stockhausen Co., 201-03 Marine Bank Bldg.; all Baltimore. (Previously noted.)

Miss., Corinth—Foote St. Church of Christ will erect \$25,000 building, lately noted; Classic type; brick; 50x68 ft., with wings; 2 stories; concrete and wood floors; brick and concrete foundation; asphalt shingle roof; steam heat; Hubert T. McGee, Archt., 632 Madison Ave. Bldg., Memphis, Tenn.; construction by day labor; heating, lighting and plumbing not let. Address J. L. Leath, Corinth. (See Mchy. Wanted—Columbus (Stone); Cornice (Metal).)

Miss., Jackson—Griffith Memorial Baptist Church, W. H. Hutchins, Chmn., Bldg. Comm., plans to erect Sunday school annex.

Miss., Jackson—St. Andrew's Episcopal Church will erect parish house, West St., opposite courthouse. Address The Rector.

Miss., Lula—M. E. Church, South, Dr. N. Yates, Chmn., Bldg. Comm., will erect \$15,000 building; English chapel type; mat brick; stone trim; 50x60 ft.; 1 story; wood floors; concrete foundation; Alsop & Callahan, Archts., Rand Bldg., Memphis, Tenn. (Lately noted.)

Mo., Brookfield—Christian Church plans to rebuild structure; H. L. Winey, Topeka, Kan., submitted financial plans. Address The Pastor.

Mo., Carthage—First M. E. Church, South, will erect \$40,000 Sunday school unit, W. 7th St.; Percy Simpson, Archt., Carthage.

Mo., Joplin—First Presbyterian Church, A. B. Thomas, Chmn. Finance Comm., will rebuild burned structure; cost \$75,000; \$65,000 available.

N. C., Durham—Lakewood Baptist Church will erect \$30,000 church and Sunday school building; 2 stories and basement; brick, stone and concrete; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; bids opened June 5.

N. C., Huntersville—Presbyterian Church, Rev. John W. Grier, Pastor, will erect brick building; Will E. Potts, Constr. Supervisor, Davidson; J. L. Woodsides, Charlotte, brick work.

N. C., Marion—Methodist Church plans to erect \$55,000 building. Address The Pastor.

N. C., Raleigh—First Presbyterian Church will erect \$90,000 Sunday school building; 2 stories and basement; brick, stone and concrete; concrete and pine floors; Herbert L.

Cain, Archt., 12 N. 9th St., Richmond, Va.; ready for bids about Sept. 1.

N. C., Rocky Mount—First Presbyterian Church will erect \$50,000 Morton Memorial Sunday school building; 2 stories and basement; brick, concrete and steel; concrete and pine floors; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; ready for bids about June 30.

N. C., Winston-Salem—Brown Memorial Church will expend \$50,000 to \$60,000 to alter and enlarge building; build front and 3-story rear addition; C. Gilbert Humphreys, Archt. Address E. L. Davis, 660 N. Spring St.; both Winston-Salem. (Previously noted.)

Tenn., Columbia—St. Peter's Episcopal Parish will erect parish house; tentative plans approved. Address The Rector.

Tenn., Obion—Church of Christ, Jas F. Darnall, M. D., Chmn. Bldg. Comm., will repair present 56x36-ft. building and erect 36x40-ft. addition; 1 story; wood floors; brick foundation; asbestos or asphalt roof; hot air heat; city lights; cost about \$10,000; architect not selected. (Lately noted.)

Tex., Brady—Brady Baptist Church will erect 2-story and basement brick building; 60x80 ft.; wood floors; concrete foundation; composition roof; warm air heat; Will N. Noonon, Archt., San Antonio; low bid about \$36,000; contract not let; (Previously noted.)

Tex., Calvert—M. E. Church, South, J. A. Foster, and others, Bldg. Comm., will erect \$20,000 brick veneer building; P. G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio; plans out about June 15. (Previously noted.)

Tex., El Paso—Altura Presbyterian Church, Russell & Idalla Sts., Rev. Henry T. Schneider, Pastor, will erect \$30,000 Gothic type building, Byron St. and Morehead Ave.; pressed brick; stone trim; rock-faced stone foundation; inclined floors; asbestos composition shingle roof; banquet room and kitchen in basement; auditorium to seat 400; meeting room, 100; 16 classrooms; Capt. E. F. Glick, Archt., El Paso.

Tex., Plainview—First Baptist Church, A. C. Hatchell, Chmn., Bldg. Comm., plans to erect \$75,000 to \$100,000 building.

Tex., Sinton—M. E. Church, South, will erect building; 3 stories; 40x80 ft.; concrete and brick; concrete and hardwood floors; concrete foundation; asphalt roof; metal ceilings; plaster board; ventilators; rolling partitions; forced hot air heat; conduit wiring; Paul G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio; Newman Bros., Kenedy, low bidders at \$24,800; Graham & Collins, San Antonio, low bid for electrical work, \$297, and Monerief Mfg. Co., Dallas, for heating, \$1600. (Lately noted.)

Tex., Smithville—M. E. Church will erect \$20,000 brick building; P. G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio; plans out about June 15. (Previously noted.)

Va., Lawrenceville—M. E. Church, South Lawrenceville, will erect \$25,000 Sunday school building; 3 stories and basement; brick, stone and concrete; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va. Address W. A. Trotter, Lawrenceville.

W. Va., Oak Hill—First Baptist Church will erect \$90,000 building; brick, stone and concrete; 2 stories and basement; concrete and composition floors; art glass; steam heat; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; ready for bids in early fall.

W. Va., Ronceverte—First Presbyterian Church will erect \$75,000 building; brick; art stone trim; 2 stories and basement; oak finish; steam heat; rolling and folding partitions; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; ready for bids about June 25.

City and County.

Ala., Birmingham—Auditorium—City, D. E. McLendon, Pres. City Commrs., will erect \$464,000 municipal auditorium; seating capacity 6024; plans by Birmingham Assn. of Archts.; bids opened June 26. (Previously noted.)

Fla., Tampa—Fire Station—City, B. A. Redding, Pur. Agt., will erect \$10,000 fire station No. 2, Michigan Ave. and 12th St.; 25x50 ft.; 2 stories; cement joist and wood floors; roof; conduit system of electric wiring; Franklin O. Adams, Jr., Archt., 510½ Franklin St., Tampa; bids opened May 29. (Lately noted.)

Md., Baltimore—Library—Enoch Pratt Free Library, Mulberry and Cathedral Sts., will erect branch building, 214 Loudon Ave.; cost \$35,000; site 28x25 ft.

Mo., Marshall—Jail—Saline County Court may call bond election for jail. Address County Commrs.

N. C., Winston-Salem—Market—Atlantic Marble & Tile Co., Charlotte, N. C., is low bidder on tile work for storage rooms and fixtures of city market, Cherry and 6th Sts.; 100x240 ft.; 1 and 2 stories; W. C. Northup, Archt., Winston-Salem. (Details and other low bidders lately noted.)

Okla., Muskogee—Home—Muskogee County, W. H. Harrower, Chmn. County Commrs., Metropolitan Bldg., will levy tax to erect \$15,000 home on site of burned structure; \$50,000 bond issue, lately voted, declared illegal.

Okla., Tulsa—Fire Stations, Police Station and Jail—City, H. F. Newblock, Mayor, voted \$100,000 bonds for 2 suburban fire stations and \$150,000 for police station and jail.

Tex., Waco—City Hall—City defeated \$325,000 bond issue for city hall. (Lately noted.)

Tex., Weimer—City Hall—City will erect \$20,000 city hall; reinforced concrete and brick; L. Harrington Co., Archts., San Antonio; bids opened June 18 at Weimer.

Courthouses.

La., Monroe—Ouachita Parish, Chas. W. Phillips, Pres. Police Jury, will erect \$400,000 courthouse and jail building; J. W. Smith, Archt., Monroe. (Lately noted.)

Mo., Linn—Osage County, H. M. Luckenhoff, County Clk., will erect \$70,000 fireproof courthouse to replace burned structure; reinforced concrete and brick; H. H. Hohenschold, Archt., Odd Fellows Bldg., St. Louis; \$18,000 insurance available; will levy tax for balance.

N. C., Newton—Catawba County, J. D. Elliott, Chmn. County Commrs., will erect Courthouse on site of present structure.

N. C., Wilson—Wilson County Board of Commrs., Henry B. Lane, Chmn., will meet July 30 at courthouse to receive plans and specifications for erection of courthouse and jail building; further information from W. J. Boykin, County Auditor, Wilson.

Dwellings.

Fla., Miami—G. E. McCaskill will erect \$10,000 residence, N. W. South River Drive and Park Lane, Grove Park; 2 stories; tile and concrete; 2 baths; sleeping and glass enclosed porches, both 9x20 ft.; R. A. Preas, Archt., Miami.

Fla., Miami Beach—Wm. M. Law will erect 2 dwellings, Alton Rd., Sunset Lake subdivision.

Fla., Nokomis—Nokomis Realty Co., F. H. Abbie, Pres., Colonia, N. J., will erect number of dwellings in connection with land development; stucco on wood and tile; bids

opened October and November, 1923. Address Mr. Abbie.

Ga., Macon—Bibb Manufacturing Co. will erect 23 operatives' dwellings on Oglethorpe St. and Bibb Ave., at Bibb Mill No. 2; total cost \$57,000.

Ky., Blue Diamond—Blue Diamond Coal Co. will erect no additional dwellings this summer as lately reported.

La., New Orleans—J. C. Haneke, Jr., will erect \$11,000 bungalow, Broadway and Hickory Sts.; E. F. Spurl, Contr., 306 Vincent Bldg., New Orleans.

La., New Orleans—E. R. Mendez, 4036 St. Charles Ave., will erect 2 duplex dwellings, 3618 Napoleon Ave.; total cost \$18,000.

La., New Orleans—E. Phelps will erect residence, Easter and Audubon Sts.; Armstrong & Koch, Archts., Maison Blanche Annex, New Orleans.

La., New Orleans—C. R. Robertson will erect residence, Broad St. near Pritchard St.; cost about \$10,000; H. F. Hinrichs, Archt., 7336 Irma St., New Orleans.

La., New Orleans—Rhea Gazin Robinson, 4200 S. Broad St., will erect 5 double cottages, S. Miro and Gen. Pershing Sts.; total cost \$20,000.

Md., Baltimore—City Real Estate Co., 11 E. Fayette St., will erect 17 two-story brick dwellings, south side Springhill Terrace, east of Starr Lane; 19x30 ft.; slag roofs; total cost \$40,000; Geo. Wessel, Archt., 3001 Lytleton Rd., Baltimore; owner builds.

Md., Baltimore—Wm. J. Peters, Carroll Rd., Cheswold, will erect 15 two-story brick dwellings, 1322-50 Weldon Ave.; 14.11x47 ft.; Carey roofs; total cost \$36,000; Callis & Callis, Archts., 611 American Bldg., Baltimore.

Md., Baltimore—Geo. L. Schnader, 115 N. Charles St., will erect 3 frame dwellings, N. W. side Gebb Ave., S. W. of Batavia Ave.; 1½ stories; 20x38 ft.; asbestos shingle roofs; hot air heat; total cost about \$10,000; owner builds.

Md., Baltimore—Louis and F. W. Segrist, Segrist Transfer Co., 109 Market Place, will erect 2 two-story frame dwellings and garages, Hamilton Ave.; total cost \$12,000.

Md., Baltimore—Herbert Reed, 5605 Arbutus Ave., will erect 6 cottages, N. W. cor. Arbutus and Mortimer Aves.; 2 stories; frame; 28x39 ft.; hardwood and concrete floors; asbestos roofs; interior tile; ventilators; plans and construction by owner; John J. Rogers, 5410 Jonquil Ave., plumbing and heating; Newton Electric Co., 916 Woodley St., electrical work, both Baltimore. (Lately noted.)

Mo., Springfield—F. H. Lawton will erect 2-story Dutch Colonial residence, Roanoke and Normal Sts.

Mo., Springfield—R. E. Lee will remodel residence 941 W. Walnut St.

N. C., Charlotte—H. C. Sherrill Co. will erect 4 dwellings, 502-03-04-06 Clarice Ave., and 3 dwellings, 2101-09-2205 E. 8th St.; total cost \$46,500.

N. C., Forest City—Alexander Manufacturing Co., near Forest City, S. A. Summey, Supt., will erect 25 or 30 employees' bungalows; 4 or 5 rooms; electric lights, running water, baths and sewerage.

N. C., Greensboro—Gulford Insurance and Realty Co. will erect \$10,000 dwelling, Irving Park.

N. C., Greensboro—Homes Building Co., Inc., A. B. High, S. J. and Flora A. Stern, incorporated to erect dwellings for negroes; 10 to be erected first and others as demand increases.

Okla., Oklahoma City—Jack Gill will erect \$6000 dwelling, 1812 W. 17th St., \$8000 dwelling, 416 W. 19th and \$5500 store, 614-16 W. Grand.

S. C., Columbia—Mt. Tabor Lutheran Church, Brookland, plans to erect 7-room brick parsonage. Address The Pastor.

S. C., Kershaw—W. C. McDowell will rebuild residence lately noted burned; 8 rooms; frame; hardwood floors; brick foundation; 2 stories; metal roof; construction to begin about Aug. 1.

S. C., Spartanburg—N. O. McDowell will erect 4 six-room bungalows, Bishop St.; also 2 bungalows, Woodland St.; total cost \$16,000.

Tenn., Memphis—H. Dlugach will erect five-room frame dwelling, 2128 Lee St.; also 9 dwellings, S. Parkway, East, 3 on E. Iowa Ave. and 3 on Washington St.; total cost \$51,000; all brick veneer; 5 and 6 rooms.

Tenn., Memphis—B. D. Maupin is erecting 2 duplex buildings, 2301-03 Madison Ave.; cost \$20,000 each; 7 rooms to each suite.

Tenn., Memphis—V. V. Rittelmeyer will erect 6-room brick veneer dwelling, 693 N. Evergreen St., cost \$4600, and three 8-room stucco dwellings, Tutwiler Ave., cost \$5600 each.

Tenn., Memphis—Percy R. Todd, 1085 Greenlaw Ave., is erecting first 2 of 5 duplex buildings, 216-30 N. Willett St. near Poplar Ave.; \$12,000 each; 30x70 ft.; 2 stories; oak floors; concrete foundations; composition shingle roofs; interior tile; plans and construction by owner. (Lately noted.)

Tex., Ballinger—Robt. Harwell will erect 1-story brick veneer residence; P. G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio.

Tex., Caldwell—H. H. Womhole will erect 1-story brick veneer residence; P. G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio.

Tex., Dallas—Dallas Housing Co., Chas. A. Meyers, Mgr., purchased Hart property facing Fitzhugh Ave. and Peak St., and plans to erect number of dwellings.

Tex., Dallas—T. B. Adkinson will erect two 7-room brick veneer dwellings, 616-624 Cedar Hill; cost \$10,000 each.

Tex., Dallas—R. L. Bennett will erect 2-story brick veneer residence; P. G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio.

Tex., Dallas—Harry Fisher will erect \$12,000 residence, 1037 N. Madison St.; 7 rooms; brick veneer.

Tex., Dallas—C. F. Knott will erect four 5-room brick veneer cottages, 811-19-27-35 S. Mont Clair St.; cost \$4500 each.

Tex., El Paso—National Realty Co. will erect 4 brick bungalows, 3800 block Memphis St., and one, 3314 Porter Ave.; all in Grandview addition; total cost \$17,500.

Tex., Lockhart—Methodist Church will erect parsonage. Address The Pastor.

Tex., San Antonio—Joe Frost will erect frame stucco residence, Terrell Hills; Herbert S. Green, Archts.; V. L. Rasmussen, low bidder at \$17,613; A. H. Shafer and Martin Wright, both bid \$357 for electrical work; Chalkey Bros., plumbing, \$1593, heating \$1431; M. M. Loftus, painting, \$1076; all San Antonio.

Tex., San Antonio—Graham Dowdell will erect \$25,000 residence, Bluebonnet Hills; 2 stories; 8 rooms; stone; Ralph H. Cameron, Archt., City Nat. Bank Bldg., San Antonio.

Tex., San Antonio—E. O. Garrett will erect 2-story frame residence, Coffman St., Northaven Addition; Adams & Adams, Archts., Gibbs Bldg., San Antonio.

Tex., Waelder—R. D. Miller will erect 2-story brick residence; Will N. Noonan, Archt., San Antonio; ready for bids in about 1 week.

Tex., Ysleta—E. A. Cressey, El Paso, is erecting \$6000 two-story residence and will erect 2 additional dwellings.

Va., Richlands—Ed Rimmer will erect brick residence.

Va., Waverly—J. D. Gray will erect \$45,000 residence; stucco; 2 stories; brick or concrete foundation; tile roof; oak, tile and wood block floors; W. Duncan Lee, Archt., 708 Travelers Bldg., Richmond; sub-bids opened June 5.

Va., Westover—Richard Crane will erect manager's cottage and remodel Westover; install bathrooms, electric heating and wiring, etc.; W. Duncan Lee, Archt., 708 Travelers Bldg., Richmond.

W. Va., Fairmont—Hugh F. Smith will erect \$10,000 residence, 14 Morgantown Ave.; 2 stories; 31x32 ft.; stucco.

Government and State.

Ala., Huntsville—Custom House and Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will receive bids until June 20 for extension and remodeling of custom house and postoffice; drawings and specifications from Custodian at site or from office Supervising Archt. (Lately noted.)

Ga., Atlanta—Veteran's Bureau Building—G. F. Willis will erect \$80,000 building, Pine and Courtland Sts., to be occupied by U. S. Veterans' Bureau to be connected with present headquarters.

Ky., Frankfort—Post Office and Courthouse—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will receive bids until July 3 for remodeling and extension of post office and courthouse; drawings and specifications from Custodian at site or from office Supervising Archt.

Hospitals Sanitariums, Etc.

Ala., Birmingham—American Cast Iron Pipe Co. will erect \$27,500 dispensary; 1 story; brick; 125x35 ft.; operating rooms, laboratory, etc.; Miller & Martin, Archts., Birmingham.

Md., Baltimore—University Hospital, Dr. Arthur Lomas, Supt., Greene and Lombard Sts., will erect accident ward; concrete construction, glass enclosed; elevator equipment.

Miss., Hattiesburg—South Mississippi Infirmary, Dr. W. W. Crawford, Owner, will erect 4-story reinforced concrete hospital building; hollow tile curtain walls; plastered interior partitions; 38x91 ft.; marbleoid and linoleum floors; tile roof; 1 passenger elevator; conduit wiring; nurses' signal system; will remodel old buildings; interior changes; exterior stuccoed over weather board on metal lath; central low pressure heating plant; Bem Price, Archt., Jefferson County Bank Bldg., Birmingham, Ala.; bids opened about July 1; separate bids on heating, plumbing and wiring.

Miss., Jackson—Mississippi State Penitentiary Comsn., J. J. Coman, Sec., Jackson, will rebuild hospital noted burned at Sunflower Plantation, Parchman Penitentiary Farm, F. H. Butler, Supt.; loss \$68,000.

Okla., Norman—Oklahoma Soldiers' Relief Comn., Horace H. Hagan, Chmn., 302 Commercial Bldg., Tulsa, will erect \$85,000 building at State Insane Asylum.

Tex., Austin—City, H. C. Nolen, Commr. of Public Safety, plans to erect addition to City Hospital.

Tex., Kerrville—Bldg. Board of American Legion Memorial Sanatorium, S. B. Cowell, Chmn., Austin, will receive bids until June 28 to erect 4 semi-detached and 2 other structures; reinforced concrete and brick; plans from Phelps & Dewees, Archts., Gunter Bldg., San Antonio. (Lately noted.)

Hotels.

Ala., Opp—Donaldson & Winston will erect hotel.

Fla., Belle Glade—C. E. Riedel, Lake Worth, and associates will remodel Myers Hotel.

Fla., Fort Lauderdale—Placidena Hotel Co. will erect \$450,000 building; fireproof; concrete and hollow fireproof tile; hardwood and concrete floors; metal doors; plaster board; steel sash and trim; wire glass; ventilators; Otis elevators; 142 rooms with private bath; Pfeiffer & O'Reilly, Archts., Lemon City. (Lately noted.)

Ga., Savannah—Jos. Maril will erect hotel at Charlton and W. Broad Sts.; 80x160 ft.

La., Elizabeth—Elizabeth Hotel will rebuild structure; erect 8 or 10 rooms, private baths, remodel interior, construct dining room, etc.

La., New Orleans—Grunewald Hotel Co., Jos. Vaccaro, Pres., will erect 20-story annex; Favrot & Livaudais and Toledano, Wogan & Bernard, Asso. Archts., both New Orleans. (Previously noted.)

Miss., New Albany—Mrs. Wm. Henderson, Propr., New Albany Hotel, Depot St., will erect brick hotel adjoining present structure.

Tenn., Signal Mountain—C. E. James, James Bldg., Chattanooga, is reported to erect hotel; several hundred rooms; present plans contemplate construction in units; first unit to contain 52 rooms.

Tex., Lockhart—Carter Hotel will erect 30-room addition; steam heat.

Miscellaneous.

La., Alexandria—Orphanage—Board of Directors, Masonic Home for Orphans, will receive bids until June 30 to erect several buildings; cost \$150,000; Jones, Roessle & Olschner, Archts., Maison Blanche Bldg., New Orleans, and Ardis Bldg., Alexandria. (Previously noted.)

Miss., Jackson—Orphanage—Mississippi Methodist Orphanage, Rev. B. F. Lewis, Supt., will erect \$150,000 building; Harry N. Austin, Archt., Jackson.

Okla., Muskogee—Nursery—Kiwanis Club is promoting erection of day nursery; 3 stories and basement; brick and stone; fireproof zinc roofing; built-in devices; dining room to accommodate 50 children; T. A. Bassham, Archt., Muskogee. (Previously noted.)

S. C., Greenville—Restaurant—S. & W. Cafeteria Co., Charlotte, N. C., leased building at Washington and Laurans Sts. and will remodel; cost \$25,000.

Tex., Austin—Varsity Athletic Council, Prof. J. W. Calhoun, Chmn. Comm., will erect \$10,000 gymnasium on Jordan Field; H. M. Greene, Archt., Dallas.

W. Va., Huntington—Home—Foster Foundation, D. E. Abbott, Pres., will erect Foster

Home for Aged Women; cost \$150,000 to \$175,000; Sidney L. Day, Archt., Huntington; ready for bids about July 15. (Previously noted.)

Railway Stations, Sheds, Etc.

La., DeQuincy—Kansas City Southern Ry., J. M. Weir, Ch. Eng., Kansas City, Mo., will erect passenger station; hollow tile and stucco. (Previously noted.)

Schools.

Ala., Birmingham—Jefferson County Board of Education, Dr. N. R. Baker, Supt., contemplates calling election on \$1,000,000 building bonds.

Ala., Mobile—School Commissioners will erect negro industrial high school; cost \$36,393; 126x80 ft.; 2 stories; 10 rooms; brick; concrete and wood joist floors; concrete foundation; composition roof; steel sash and trim; wire glass; ventilators; steam heat; C. L. Hutchisson, Archt., Emanuel Bldg.; G. A. Chamblin & Son, Contrs.; Leahy & Landry, heating and plumbing, \$4988; all Mobile. (Lately noted.)

Ark., Yellville—County School Board will erect building in Yellville-Summitt Consolidated School Dist.; \$20,000 bonds voted. (Lately noted.)

D. C., Washington—District School Commissioners, 509 District Bldg., will install lighting in 26 schools.

D. C., Washington—District School Commissioners, Room 509, District Bldg., will receive bids until June 15 to erect addition and alter Strong John Thomson School, 12th and L Sts., N. W.; will also receive bids until June 14 to erect cottage for Industrial Home School for colored children at Blue Plains; detailed information at Room 427 District Bldg.

Fla., Avon Park—Avon Park School Dist. will vote June 29 on \$75,000 bonds, \$65,000 to erect high school on Verona Ave. and \$10,000 to repair present high school and erect graded school for Fort Kissimmee. Address Dist. School Trustees.

Fla., Clearwater—Board of Public Instruction will erect Central High School; cost \$150,000; M. Leo Elliott, Archt., Citizen Bank Bldg., Tampa.

Fla., Dania—School Board will erect addition to building; \$20,000 bonds voted.

Fla., Fort Lauderdale—Board of Public Instruction will erect ward building, colored school and addition to high school; \$60,000 bonds voted.

Fla., Hopewell—Hillsborough County Board of Public Instruction, J. E. Knight, Sec., Tampa, will receive bids until June 18 to erect \$12,000 building; plans and specifications prepared by M. Leo Elliott, Citizens Bank Bldg., Tampa, may be procured at office Mr. Knight.

Fla., Kissimmee—Osceola County School Board, C. E. Yowell, Supt., will erect 10-room building for primary grades and 12-room structure for grammar school.

Fla., Pompano—School Board will erect auditorium and make repairs to building; \$15,000 bonds voted.

Fla., Tampa—Hillsborough County Board of Public Instruction, J. E. Knight, Supt., will receive bids until June 25 to erect addition to high school; cost \$150,000 to \$200,

000; 2 wings to be connected by auditorium to seat 1300; M. Leo Elliott, Archt., Citizen Bank Bldg., Tampa. (Lately noted.)

Ny., Princeton—Board of Education will erect high school; cost \$110,000.

Ky., Thruston—Board of Education plans to erect \$40,000 school.

La., Brusly—West Baton Rouge Parish School Board, J. A. Alford, Pres., Port Allen, will erect 1-story addition to high school at Brusly and 1-story frame building at Sardine Point; bids opened June 11; Edw. F. Neild, Archt., Shreveport.

La., Castor—Bienville Parish School Board, R. H. Fisher, Supt., Arcadia, will receive bids until June 20 to erect building; brick; 15 rooms; plans and specifications at office J. W. Smith, Archt., Monroe, and office Mr. Fisher.

La., Lafayette—Christian Bros. will erect \$45,000 school at foot of Vermillion St.; fireproof; 15 rooms.

La., Marksville—Avoyelles Parish School Board will issue \$150,000 bonds.

La., New Orleans—School Board, J. A. Fortier, Pres., contemplates erection of normal school; will also erect Capdau and Lafayette Schools at cost of \$500,000; E. A. Christy, Archt., New Orleans.

La., New Roads—Pointe Coupee Parish School Board, R. Mumford, Pres., called election June 19 on \$100,000 bonds to erect building.

La., Ville Platte—Evangeline Parish School Board, J. C. Vidrine, Pres., called election June 27 on \$25,000 bonds to erect and repair schools in School Dist. No. 1.

Md., Aberdeen—Harford County Board of Education, C. Milton Wright, Sec., will receive bids until June 27 to erect school; 8 rooms; brick; plans and specifications at office Hamme & Witman, Archts., City Bank Bldg., York, Pa.

Md., Baltimore—Public Improvement Commission, Robt. Garrett, Chmn., Garrett Bldg., selected Dr. Warren Powers, Dean of School of Fine Arts at University of Pennsylvania, Philadelphia, as advisory architect for City College. (Previously noted.)

Md., Baltimore—Friends' School, 1712 Park Ave., will erect clubhouse at West Forest Park; 30x60 ft.; 2 stories; slate roof.

Miss., De Lisle—De Lisle School Dist. Trustees will erect building; \$10,000 bonds voted. (Lately noted.)

Miss., McComb—Board of Education, A. H. Jones, Sec., will receive bids until June 27 to erect two 1-story elementary schools; cost \$150,000; separate bids on plumbing, heating and wiring; C. H. Lindsley, Archt., Kress Bldg., Jackson. (Lately noted.)

Miss., Pass Christian—Board of Supervisors called election June 19 on \$30,000 bonds to erect school for negroes.

Miss., Parchman—School Board will erect \$55,000 building.

Miss., Sandhill—Sandhill Consolidated School Dist. Trustees, W. L. Tillman, Chmn., will erect building.

Miss., Vicksburg—City, J. J. Hayes, Mayor, will receive bids until July 2 to erect school; plans and specifications at office City Clerk.

Mo., Cameron—City will vote June 22 on \$12,000 improvement bonds; will install heating plant, drinking water system, repairs, painting, etc., at Southside School. Address Board of Education.

Mo., Canalou—Canalou Consolidated School Dist. No. 2 voted \$35,500 bonds. Address Dist. School Trustees.

Mo., Cape Girardeau—Lutheran Church, Pacific and Themis Sts., will erect parochial

school; cost \$10,000; brick; 4 rooms. Address The Pastor.

Mo., Fayette—Central and Howard-Payne Colleges, Rev. Dr. Paul H. Linn, Pres., will consolidate and erect several buildings.

Mo., Joplin—Board Education will install sewer systems in number of schools; cost \$20,000; also install fire escapes in schools; cost \$10,000.

Mo., Marionville—Marion School Dist. Trustees will receive bids until June 15 to erect \$40,000 high school; brick; 6 rooms and gymnasium; plans and specifications at office Earl Hawkins & Co., Archts., Springfield. (Lately noted.)

Mo., Sullivan—Board of Education, J. H. Fisher, Pres., will receive bids until June 19 to erect high school; brick; plans and specifications at office Hoener, Baum & Froese, Archts., 1519 Federal Reserve Bank Bldg., St. Louis.

N. C., Asheville—Buncombe County Board of Education, Frank L. Wells, Supt., will erect high school in French Broad Consolidated School Dist. (French Broad, Alexander Station, Cedar Hill and Slate dists.); \$40,000 bonds voted.

N. C., Bethania—Bethania Consolidated School Dist. (Becks' Bethania and Pleasant Ridge) will erect building. Address District School Trustees.

N. C., Greensboro—Agricultural & Technical College, Dr. Jas. B. Dudley, Pres., will receive bids until June 18 to erect power house and laundry, including plumbing; plans and specifications at office H. A. Underwood, Engr., Raleigh, N. C., and office Dr. Dudley. (Lately noted.)

N. C., Leasburg—School Board will erect high school.

N. C., Lexington—City voted \$45,000 bonds to erect \$30,000 high school and \$15,000 to remodel present high school and improve grounds; Harry Barton, Archt., Greensboro, N. C. (Lately noted.)

N. C., Nashville—School Board, B. G. Alford, Chmn., will receive bids until June 27 to erect high school; plans and specifications at office Benton & Benton, Archts., Wilson.

Okla., Holdenville—City contemplates election on \$25,000 bonds to erect school. Address School Board.

Okla., Stillwater—Stillwater School Dist. voted \$110,000 bonds. Address Dist. School Trustees.

S. C., Columbia—City School Board will erect Howard School; Wilson & Berryman, Archts.; addition to Taylor School, J. Carroll Johnson, Archt.; extension to Shandon School; Lafaye & Lafaye, Archts.; all Columbia.

S. C., Columbia—State Board of Public Welfare, 212 Palmetto Bldg., will erect dairy barn at State Industrial School for Girls; bids opened about June 9; Wilson & Berryman, Archts., Columbia. (Lately noted.)

S. C., Gaffney—Trustees, Golden Springs School Dist. No. 28, W. A. Haas, Chmn., will erect 2-story brick building; bids opened June 5.

S. C., Hendersonville (R. D. from White Hall)—School Trustees, C. H. Boynton, P. A. Sloman and others will erect school to replace burned structure.

S. C., Marion—High School Dist. No. 1 will vote June 22 on \$100,000 bonds to erect building; Henry Mullins, Chmn., Board of School Trustees.

Tenn., Alcoa—City, C. L. Babcock, Mayor, will erect \$60,000 school; bungalow type; 60x240 ft.; 12 classrooms; auditorium, library, etc.; P. R. L. Hoagner, Archt., 2400 Olive Blvd., Pittsburgh, Pa.; day labor.

Tenn., Brighton—County Board of Education, Eugene Younger, Supt., Covington, will erect \$15,000 high school; brick or brick veneer; will also erect several negro schools.

Tenn., Huntingdon—Huntingdon School Dist. voted \$50,000 bonds, \$30,000 for indebtedness and \$20,000 for improvements to high school; E. H. Edwards, Supt. of County Schools. (Lately noted.)

Tenn., Knoxville—Tennessee School for Deaf and Dumb will erect buildings at Island Home; main building to cost \$150,000; Address Lewis S. Pope, Commr. of Institutions.

Tenn., Memphis—St. Mary's School purchased Thornton Newsom property, 1257 Poplar Ave., and will remodel residence, extend dining room, construct sleeping porch and erect 50x150 ft. building for 16 classrooms to accommodate 150 pupils; cost \$30,000.

Tenn., Nashville—Ward-Belmont College will erect \$75,000 building, Acklen and Belcourt Sts.; 3 stories; brick and concrete.

Tenn., Sharon—Sharon Special School Dist. voted \$10,000 building bonds. Address Dist. School Trustees.

Tenn., Shelbyville—County Board of Education will erect high school; C. K. Colley, Archt., Nashville.

Tex., Bertram—Board of Education plans to erect school; election June 9 on \$20,000 bonds.

Tex., Blossom—School Board will erect \$35,000 building to replace burned structure.

Tex., Denton—Board of Regents, College of Industrial Arts, Dr. F. M. Bralley, Pres., will receive bids until June 16 for remodeling steam distribution system including power house extension, concrete tunnels, piping and radial brick chimney; plans from R. F. Taylor, Conslt. Engr., 1019-20 Western Indemnity Bldg., Dallas. (See Machinery Wanted—Steam Distribution System; Power House; Tunnels (Concrete), Piping; Chimney (Brick).)

Tex., Houston—Rice Institute, Prof. H. B. Weiser, Dean of Chemistry, will receive bids until June 25 to erect chemical laboratory; cost \$375,000; 3 stories and basement; brick and reinforced concrete; stone trim; tile roof; steam heat; electric lights; electric elevators; 16 small laboratories and research rooms, 7 classrooms, 3 lecture rooms and amphitheater, 2-story store and vault for chemicals; plans and specifications at office Cram & Ferguson, Boston, Mass., and Wm. Ward Watkins, 212 Scanlan Bldg., Houston, Asso. Archts. (Lately noted.)

Tex., Hubbard Hill—City will vote June 23 on \$10,000 bonds; H. C. Bishop, City Sec.

Tex., Idalou—School Board will erect \$50,000 building; brick; Spanish tile roof; Peters & Haynes, Archts., Lubbock.

Tex., Megargel—City voted \$10,000 school building bonds. Address Board of Education.

Tex., Mesquite—Mesquite Independent School Dist. Trustees will erect school; cost \$40,000.

Tex., Pilot Point—School Board, J. R. Windell, Sec., will erect building; \$50,000; 2 stories and basement; brick; bids opened June 5; C. H. Leibach, Archt., Dallas. (Lately noted.)

Tex., Plano—School Board plans to erect building; election June 23 on \$65,000 bonds. (Lately noted.)

Va., King George—King George County School Board will erect \$25,000 high school; 103x62 ft.; 1 story; 6 rooms; hollow fireproof tile; metal ceilings; hardwood and concrete floors; steel sash and trim; built up roof; concrete foundation; ventilators; steam heat; bids opened June 1; plans by State Board of Education, Richmond. (Lately noted.)

Va., Lexington—Washington and Lee University will erect chemistry building; 3 stories; brick; lecture hall to seat 400.

Stores.

Fla., Dade City—Coleman-Ferguson Department Store will erect store and warehouse; cost \$25,000; M. Leo Elliott, Archt., Citizen Bank Bldg., Tampa.

Fla., Lakeland—H. C. Edmonson will rebuild commissary noted burned at Tancrede south of Medulla.

Ky., Ashland—Moses Hyman and associates, Welch, W. Va., plan to erect store and office building at 15th St. and Winchester Ave.

Md., Baltimore—Jos. H. Gault, Pres., Gault Mfg. Co., Union, S. C., will erect 1-story addition to building on Liberty St. between Fayette and Lexington Sts.; Otto G. Simonson, Inc., Archt., Maryland Casualty Tower, Baltimore.

Mo., Kansas City—J. C. Nichols Development Co. will erect building of shops on Mill Creek Parkway, 2 stories; 70 ft. tower; brick, terra cotta and tile.

Ky., Sergeant—Franklin & Co. will erect store building; contract at once.

Ky., Whitesburg—Mullins Bros. will erect \$10,000 business building; contract at once.

La., New Orleans—Schiros Shoe Co. will remodel building at Canal and S. Rampart Sts.; cost \$30,000; Weiss & Dreyfous, Archts., Maison Blanche Bldg., New Orleans.

N. C., Thomasville—T. B. Finch will erect business block on Salem St.

S. C., Aiken—Chas. L. Weeks, Montmorenci, will erect building at Park Ave. and Laurens St.; brick; 3 stores on first floor; upper floors offices.

Tenn., Chattanooga—S. H. Kress Co., New York, will remodel building on Market St.; cost \$30,000 to \$40,000.

Tenn., Clarksville—Development Co., Inc., will erect several stores on Strawberry St.; cost \$15,000.

Tex., Beaumont—Arthur M. Kaufman, Pres., Phoenix Furniture Co., will erect several stores at Park and Fannin Sts.

Tex., Dallas—W. V. Cullum and A. D. Hodge will erect \$60,000 store and office building at Akard and Marilla Sts.; 92x98½ ft.; 3 stories; 5 store rooms on first floor; upper floors for offices; Lang & Wichell, Archts., Dallas.

Tex., Dallas—W. H. Broadnax will erect stores at 1100-6 Corinth St.; cost \$20,000; 2 stories; brick.

Tex., Dallas—P. P. Martinez will erect store building, 2046 Canton St.; cost \$17,000; 2 stories; brick.

Tex., Nederland—C. L. Freeman will erect \$30,000 brick building on Beaumont highway; 2 stories; 6 stores on first floor; offices or apartments above.

Tex., Nederland—Dr. J. H. Haizlip will erect 2-story building.

Tex., Port Arthur—W. C. Tyrrell will erect \$30,000 business building on 5th Ave.; 2 stories.

Tex., Port Arthur—E. E. Weller and B. F. Zellers, Beaumont, will erect \$45,000 building; 2 stories; brick.

Tex., Port Arthur—W. D. Weller will erect 2-story building on 5th Ave.; \$30,000; brick.
W. Va., Huntington—E. V. Carter will erect building on Fifth Ave.; 85 ft. frontage; 1 story; brick.

Tex., Port Neches—Mrs. Alice Coleman, Sabine, will erect store and apartment building at Avenue A and Main St.; 2 stories; 50x150 ft.

Va., Lynchburg—McGehee Furniture Co. will remodel building at 918 Main St.; cost \$10,000; 3 stories; new front, lighting system, elevator, etc.

Va., Richmond—Irving Greentree postponed improvements to building at Second and Grace Sts.; L. T. Bengston, Archt., Richmond. (Lately noted.)

W. Va., Charleston—S. Oberlan will erect department store on Summers St.; 3 stories.

W. Va., Martinsburg—Union Sales Co., E. Race St., will erect addition to building; cost \$15,000.

Theatres.

Fla., Ocala—R. G. Walker and J. W. Phillips, Somerset, Penn., will erect moving picture theater; seating capacity 450; brick; ornamental marquise; cement floors; Geo. McKay, Archt., Ocala.

La., Baton Rouge—Elks Theater Co., Ltd., will receive bids until June 18 (extended date) to erect theater; 4 stories; 64x100 ft.; brick and frame; wood floors; concrete foundation; composition roof; interior tile; low pressure steam heat; 2 passenger elevators;

Favrot & Livaudais, Ltd., Archts., Hibernia Bank Bldg., New Orleans. (Previously noted.)

Warehouses.

Mo., St. Louis—Endicott Johnson Corp., Endicott, N. Y., is reported to erect \$1,000,000 warehouse at 11th and 12th Sts.

Mo., Springfield—Long-King & Furniture Co., J. E. King, Sec.-Gen. Mgr., will erect \$15,000 warehouse at Fremont and Memphis Sts.

Tenn., Chattanooga—Thatcher Spinning Co. will erect warehouse.

Tenn., Chattanooga—A. W. Lessly will erect building on Cowart St. to be leased by National Biscuit Co.; 1½ stories; 45x130 ft.; brick; Clarence T. Jones, Archt., Chattanooga.

Tenn., Knoxville—C. M. McClung & Co. will erect 6-story brick and steel warehouse on Jackson St.; cost \$75,000; R. F. Graf & Sons, Archts., Knoxville.

Va., Petersburg—S. B. Betts and Geo. Butterworth will erect additions and improve Oak's Warehouse, Market and Harrison Sts.; install skylights, etc.

BUILDING CONTRACTS AWARDED

Apartment Houses.

D. C., Washington—Elkoy Apartment Co. will erect 5-story apartment house, 2745 Connecticut Ave., N. W.; 50 suites; Stern & Tomlinson, Archts.-Contrs., Washington.

Fla., Jacksonville—Jas. R. Stockton will erect \$30,000 apartment house, Riverside Ave. and Post St.; hollow tile and stucco; Spanish type; 2 stories; 50x60 ft.; oak floors; concrete foundation; tar and gravel roof; Marsh & Saxelby, Archts., West Bldg.; Better Homes Co., Contr., 329 Laurel St.; J. M. Gregory, 1917 E. 8th Ave., Arcola system heat; M. Miller, 29th St., electrical work; Geo. H. Woelcke, 1339 Laura St., plumbing; all Jacksonville. (Lately noted.)

Fla., Miami—Ponce de Leon Apartment Co. will erect \$400,000 apartment house, E. Flagler St.; 9 stories; 140 suites of 1 room, kitchenette and bath; Frank V. Newell, Archt., 1108 Ave. A, Miami; Geo. W. Langrod Co., Contrs., Louisville, Ky.

Ky., Paducah—C. C. Davis will erect apartment house, 7th and Monroe Sts.; 50 rooms; 5 apartment units; Milas Stewart, Contr.; Frank Augustus, brick work; Ed. D. Hannan, plumbing; Mitchell Machine & Elec. Co., electric wiring; all Paducah.

La., New Orleans—Sixt Dist. Bldg. & Loan Assn. will erect \$15,000 apartment house, Claiborne Ave. and Neron Place; 2 stories; 34x56 ft.; asbestos slate roof; 4 suites; J. H. Meyer, Contr., 304 S. Clark St.; Luderbach Plumbing Co., heating and plumbing; both New Orleans.

Mo., Jefferson City—Schwartz & Stone have contract to erect Wymore Apts., Washington and McCarty Sts.; fireproof; 3 buildings; total of 18 suites of from 4 to 8 rooms each.

Tenn., Memphis—Mrs. Anna Aehle will erect \$20,000 apartment house, 1358 Monroe Ave.; 4 suites; brick veneer; Jas. L. Gatling, Archt.; B. D. Maupin, Contr.; both Memphis.

Tenn., Memphis—P. D. Clack, 1961 Union Ave., is erecting \$30,000 apartment house on homesite; brick veneer; four 5-room suites; H. B. Burke, Memphis, contr. for tile work.

Tex., Dallas—Marie A. Taft will erect \$47,155 apartment house, 1505 Gano St.; 2 stories; 91x70 ft.; wood, composition and

concrete floors; concrete foundation; tar and gravel roof; plaster board; ventilators; J. O. Taft, Archt.; H. H. Page, Contr.; Mr. Edsom, gas steam heat; E. E. Kelly, 1714 Corsicana St., plumbing; all Dallas; electrical work in general contract. (Lately noted.)

Bank and Office.

Ga., Fitzgerald—Exchange National Bank will erect \$62,000 bank and office building; 2 stories; 43x89 ft.; masonry and reinforced concrete walls; concrete foundation; tar and gravel roof; metal doors; vaults; vault lights; ventilators; ornamental terra cotta; steel sash and trim; wire glass; Harralson Bleckley, Archt.; Shelverton Construction Co., Contr.; Seckinger Bros., steam heat and plumbing; Reems-McCay Electric Co., electrical work; all Atlanta. (Lately noted.)

Tenn., Knoxville—East Tennessee National Bank, F. L. Fisher, Pres., will remodel 5-story bank and office building, Gay and Union Aves.; cost about \$200,000; 33x145 ft.; concrete and hardwood fireproof floors; gravel roof; hollow fireproof and interior tile; metal doors; vaults; vault lights; ornamental terra cotta; steel sash and trim; wire glass; Barber & McMurray, Archts.; J. M. Dunn & Son, Contrs.; Mismar Plumbing & Heating Co., plumbing and heating; Wright-Cason Electric Co., electrical work; all Knoxville. (Previously noted to erect building.)

Tex., Dallas—Mike H. Thomas & Co., Inc., will erect 8-story office building, Wood St. adjoining Cotton Exchange Bldg.; fireproof; 50x170 ft.; reinforced concrete frame; built-up tar and gravel roof; hollow fireproof and interior tile; metal doors; mail chutes; vault lights; ornamental terra cotta; steel sash and trim; wire glass; Anton F. Korn, Jr., Archt.; Joor Engineering Co., Engr.; Henger & Chambers Co., 315-18 Slaughter Bldg., contr., at \$270,000; Martin Bros., heating and plumbing; Otis Elevator Co., elevators; all Dallas. (Lately noted.)

Tex., Lockhart—W. B. Swearingen let contract to erect \$20,000 office building.

W. Va., Wheeling—Citizens-Mutual Trust Co., 1128 Market St., will remodel interior of building; present cost \$70,000, reported ultimate cost, \$150,000; remove second story and construct mezzanine floors at front and rear;

move elevator; install new double safety deposit vault; third, fourth and fifth floors to be retained as offices; Fred F. Faris, Archt., Wheeling Steel Corp. Bldg.; R. R. Kitchen Co., Contr., National Bank Bldg.; both Wheeling; work begun.

Churches.

Fla., Jacksonville—St. John's Episcopal Church, Dr. Van Winder Shields, Rector, will erect parish hall at Church and Market Sts., gift of Senator Jas. P. Tallafiero and daughters; cost \$112,000; English type; 1 story; stone and brick; auditorium with balcony to seat 600; Marsh & Saxelbye, Archts.; Gerbrich & Haugard, Contrs.; both Jacksonville. (Previously noted.)

Fla., Jacksonville—St. Joseph's M. E. Church, Jessie and Sparring Sts., will erect \$30,000 building; 2 stories; stone veneer; 47x56 ft.; concrete and hardwood floors; slate roof; hollow fireproof tile; metal ceilings; plaster board; rolling partitions; John H. Rosemond, Archt.-Contr., 1650 Florida Ave.; J. H. Merrideth, heating and plumbing; Seminole Electric Co., electrical work; all Jacksonville. (Lately noted.)

Ga., Jackson—M. E. Church, South. Rev. Henry H. Jones, Pastor, is erecting \$35,000 brick church and parsonage; 3 stories; 50x110 ft.; pine floors; concrete foundation; zinc shingle roof; T. L. Brodie, Archt., 1315-17 Jefferson County Bank Bldg., Birmingham, Ala.; construction by day labor; Lacey Maddox, Supt., Jackson; heating, electrical work and plumbing. Also some material contracts, not let. (Previously noted.)

Tenn., Knoxville—Oakwood M. E. Church, Rev. W. E. O. Robeson, Pastor, will erect \$40,000 building, Hancock and Burwell Sts.; brick; A. B. Baumann & A. B. Baumann, Jr., Archts., 813½ Market St.; Lynn A. Hayes, Contr., both Knoxville. (Previously noted.)

Va., Eagle Rock—Baptist Church, Rev. E. C. Davis, Pastor, will erect \$16,000 building; brick veneer; 40x70 ft.; raised floor; cement foundation; J. Wallace, Archt., Nashville, Tenn.; W. H. McClung, Contr., Eagle Rock; all contracts let and materials purchased except heating plant and metal ceiling.

Va., Marion—Royal Oaks Presbyterian Church, Rev. G. A. Wilson, Pastor, will erect \$60,000 to \$80,000 building, Main St.; C. B. Kearfott, Archt., Bristol, Va.; Rogers & Lanthal, Contrs., Harriman, Tenn.

City and County.

D. C., Washington—Police Station—Dist. Commrs., Roland Brennan, Ch. Clk., Dist Bldg., will erect \$53,376 police station, 17th St. and Rhode Island Ave., N. E.; 2 stories and attic; 50x56 ft.; brick and concrete; wood and concrete floors; reinforced concrete foundation; slate and tin roof; metal doors; steam heat; electric lights; plumbing let; A. L. Harris, Municipal Archt., Dist. Bldg. Address G. G. Loehler Co., Contr., 21 Franklin Nat. Bank Bldg., Washington. (Lately noted.)

Ga., Macon—Jail—Bibb County will erect \$101,150 jail on top of courthouse under construction; Southern-Ferro Concrete Co., Contr., Atlanta; Morris Putzel, electrical work, \$775; O'Pry Plumbing & Heating Co., plumbing and heating, \$1223; G. C. Anderson, painting, \$975; all Macon.

N. C., Danbury—Jail—Stokes County, R. Earl Wall, Register of Deeds, will erect annex to jail; brick, concrete and structural steel; electric lights; steam heat; sewer; cost about \$18,000; R. R. King, Danbury, contr. on cost plus basis.

S. C., Aiken—Jail—Aiken County, C. J. Hill, Chmn., County Commrs., will raze

present structure and erect 2-story jail; concrete floors and foundation; concrete slab and tar and gravel roof; Willis Irvin, Archt.; Holley Construction Co., contr. at \$25,259; both Augusta, Ga. (Lately noted.)

Tenn., Nashville—Home—City will erect Municipal Children's Home in Sylvan Park; cost \$33,500; brick and concrete; 3 stories; Colonial design; John Moore, Contr., Nashville.

Dwellings.

Fla., Palm Beach—Geo. L. Mesker, 290 Park Ave., New York, will erect \$100,000 residence; 2 stories; hollow fireproof tile; tile and wood floors; tile roof; Addison C. Mizner, Archt.; Benj. F. Hoffman, Contr.; both Palm Beach. (Lately noted.)

Ga., Atlanta—Dr. Willis Jones is erecting \$50,000 residence, 1479 Peachtree St.; 2 stories; brick veneer; limestone trim; 14 rooms; oak floors; concrete foundation; slate roof; Hentz, Reid & Adler, Archts.; H. W. Oliver, Contr.; Wm. Manning & Sons, low pressure steam heat; McGauley Electric Co., electrical work; Capital Plumbing Co., plumbing; Vitrolite Co., tiling; all Atlanta. (Lately noted.)

Ky., Louisville—M. J. Doll, 300 E. Jefferson St., will erect 22 dwellings, Taulbert Addition, adjoining Broadmeade; 5 rooms; wood floors; concrete block foundation; asphalt shingle roof; Otis & Bruce, Archts.-Contrs., 924 Inter Southern Bldg.; Stiglitz Furnace Co., hot air heat; Byrd & Robinson, 931 Franklin St., electrical work; A. J. Wimberg, 1314 Christy Ave., plumbing; all Louisville; construction begun. (Lately noted.)

Ky., Louisville—Dr. John M. Vander Meulen, Presbyterian Theological Seminary, is erecting \$18,000 residence, Rosewood and Castlewood Sts.; 2 stories; brick veneer; 30x49 ft.; hardwood floors; concrete foundation; wood shingle roof; Otis & Bruce, Archts.-Contrs., 924 Inter Southern Bldg.; F. J. Towle, 1011 E. Main St., Hoffman vapor system heat, Ideal boiler; W. E. Russell, Court Place, electrical work; A. J. Wimberg, 1314 Christy Ave., plumbing; all Louisville. (Lately noted.)

La., New Orleans—Greater New Orleans Homestead Assn., will erect \$12,200 bungalow, Ursuline and Broad Sts.; Bordages & Tierney, Contrs., New Orleans.

La., New Orleans—L. A. Dupkantie will erect \$12,494 dwelling, Dublin and Fig Sts.; J. J. Lagarde, Contr., New Orleans.

La., New Orleans—Giosseppe Rull will erect 2 cottages, Spruce and Cambonne Sts.; total cost \$11,100; Gitz Manufacturing Co., Contr., New Orleans.

La., New Orleans—Security Bldg. & Loan Assn. will erect dwelling, Cadiz and Miro Sts.; cost \$11,115; Edw. F. Baehr, Contr., New Orleans.

La., New Orleans—T. A. Wilson will erect \$13,427 residence, Fontainebleau Drive, near Short St.; Edwin A. Markel, Contr., New Orleans.

La., New Orleans—Mrs. S. A. Bonill, 1312 Washington Ave., will erect triplex residence, 2312-16 Wirth Place; cost \$16,500; Morgan D. E. Hite, Archt., Hibernia Bank Bldg.; Brogon Bro., Contr.; both New Orleans.

La., New Orleans—Suburban Bldg. & Loan Assn. will erect \$12,000 cottage, Jefferson Davis Pkwy. and Tulane Ave.; Humphreys & Gurtner, Contrs., New Orleans.

Md., Baltimore—Ell L. M. Fishpaw, 11 N. Gilmore St., will develop 35-acre tract, Frederick and Ilchester Rds.; will expend \$15,000 for roads and pavements and \$21,000 for bungalows and cottages; electric lights; R.

H. Wood, Archt.-Contr., Freda Ave., Hamilton, Baltimore.

N. C., Greensboro—W. Y. Preyer, Sec.-Treas., Vick Chemical Co., will erect \$48,000 residence, Sunset Drive, Irving Park; 2 stories and attic; 34x75 ft.; hollow tile and stucco; oak, tile, cork and concrete floors; concrete foundation; tile roof; interior tile; Chas. Barton Keen, Archt., 1218 Chestnut St., Philadelphia, Pa., and Winston-Salem, N. C.; C. J. McMichael, Contr., Guilford Ave.; Harden & Hickman, heating; J. L. Griffin, electrical work; W. P. Donaldson, plumbing; all Greensboro. (Lately noted.)

Tenn., Memphis—Max Weis will erect \$22,000 duplex building, 1406 Peabody Ave.; brick; stone trim; 8 rooms to each suite; Regan & Weller, Archts.; J. E. Cole, Contr.; Durham Bros., plumbing; Ideal Heating Co., heating; all Memphis.

Tex., Laredo—B. M. Alexander will erect 2-story brick and stucco residence; Adams & Adams, Archts., Gibbs Bldg., San Antonio, R. Ortiz, Laredo, contr. at \$19,616. (Previously noted.)

Tex., Coleman—Mrs. M. Tye Overall will erect Overall Memorial Hospital; cost \$25,075; Cate & Rush and Jack Powell, Contra.; L. E. McElwath, plumbing, \$2994; A. W. Luckett, electric wiring, \$825; all Coleman. (Lately noted.)

Hospitals Sanitariums, Etc.

La., New Orleans—Sisters of Charity of St. Vincent de Paul of Hotel Dieu, Sister Magdalen, Superioress, will erect \$800,000 John Dibert Memorial on site of present Hotel Dieu as main building of \$2,000,000 hospital group, Johnson and Bertrand Sts.; reinforced concrete construction wall bearing; 250x50 ft. with "L" returning 50x40 ft.; 4 stories and basement; basement of granite, first story terra cotta and balance brick and terra cotta; wood, marble, terrazzo and tile floors; pile and concrete foundation; composition roof with quarry tile finish; Paul Andry, Archt., Zeta Bldg.; Geo. J. Glover, Contr., 1033 Whitney Bldg.; Douglas Elec. Const. Co., 509 Chartres St., electrical work; all New Orleans; heating and plumbing not let. (Lately noted.)

Tex., Floydada—Drs. G. V. and L. V. Smith will erect \$12,000 sanitarium, S. Main and Mississippi Sts.; 1 story and basement; hollow tile and brick; 30x90 ft.; concrete and pine floors; concrete foundation; tar and gravel roof; steam heat; mail chutes; 2 baths; H. M. McDonald, Archt.-Contr.; E. E. Brown, Floydada, electrical work; lights furnished by Texas Utilities Co., Plainview; Charley Bland, Floydada, plumbing. (Lately noted.)

Tex., San Antonio—Grace Evangelical Lutheran Sanitarium will erect frame stucco addition, San Fernando and Zarzamora Sts.; 2 stories and basement; tile floors; metal lath; Atlee B. & Robt. M. Ayres, Archts.; John Westerhoff, contr. at \$16,140; West & Gutzeit, plumbing, \$2449, heating, \$3747. (Lately noted.)

Hotels.

Fla., Miami—Beach—Tatem Wofford will erect \$100,000 addition to Wofford Hotel; 5 stories; 57 rooms with bath; J. P. Turner, Archt., Miami; O'Neill-Orr Construction Co., Townley Bldg., Miami. (Lately noted.)

Fla., Miami—Hotel McAllister will erect \$200,000 addition to hotel; 10 stories; 40x100 ft.; 100 rooms; Frank V. Newell, Archt., 08 Avenue A, Miami; Geo. W. Langford Co., Contr., 315-16 Columbia Bldg., Louisville, Ky. (Lately noted.)

Fla., Miami—R. Earl Smith will erect \$175,000 hotel at First Ave. and Tenth St.; 6

stories; 90x90 ft.; 105 rooms with bath; reinforced concrete frame with tile curtain walls; built-up roof; concrete floors; hollow fireproof tile; metal doors; concrete foundation; plaster board; steel sash and trim; wire glass; vault lights; E. A. Nolan, Archt.; Wolf Construction Co., Contr.; E. A. Robinson, conduit system of lighting; Alexander Orr, plumbing; all Miami; Otis Elevator Co., New York, elevators. (Lately noted.)

Fla., Miami Beach—Hotel Shamrock, Box 84, C. H. Boyles, Pres., will erect \$1,500,000 hotel; Spanish architecture; 14 stories; 140x130 ft.; 350 rooms; steel, concrete and tile; steam heat; refrigerating system; Lee L. Wade, Archt.; A. B. Wade & Son, Contrs., both 318-19 Townley Bldg., Miami. (Lately noted.)

Ga., Atlanta—Farrell Heating & Plumbing Co., Atlanta, have contract at about \$500,000 for heating and plumbing in Atlanta-Biltmore Hotel for which Starrett Bros., New York, have general contract; Schultze & Weaver, Archts., New York. (Building previously noted to cost \$6,000,000.)

N. C., Asheville—Sumter Brick Works, Sumter, S. C., has contract for 300,000 Airedale brick for \$1,000,000 George Vanderbilt Hotel; Wm. L. Stoddart, Archt., 9 E. 40th St., New York; W. M. Sutherland Building & Contracting Co., Contr., Syndicate Trust Bldg., St. Louis. (Lately noted in detail.)

Miscellaneous.

Fla., Delray—Clubhouse—Pari Singer, Jno. Francis Harris, E. T. Statesbury, Palm Beach, and others will erect building near Delray; cost \$100,000; Cooper C. Lightbown, Contr., Palm Beach.

Railway Stations, Sheds, Etc.

Md., Hagerstown—Western Maryland Ry. Co., main office Standard Oil Bldg., Baltimore, will erect building for offices and warehouse; 2 stories; 45x200 ft.; reinforced concrete; steam heat; electric lights; one 3-ton freight elevator; Price Construction Co., Contr., Maryland Trust Bldg., Baltimore. (Lately noted.)

Schools.

Fla., West Palm Beach—County Board of Public Instruction, Miss Agnes Ballard, Supt., will stucco 2 stone schools; cost \$10,900; will also reconstruct rear wall of high school auditorium; cost \$4300; J. C. Hammer, Contr., West Palm Beach.

La., Baker—Leyland College will erect administration building; cost \$51,860; 2 stories;

46x104 ft.; frame and brick; steam heat; Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans; R. J. McBride, Contr., Baton Rouge. (Lately noted.)

Mo., Herman—Board of Education, Paul F. Even, Sec., will erect high school; \$38,83; 82 x 60 ft.; 2 stories and basement; brick and stone; wood floors; reinforced concrete foundation; ventilators; H. D. Pampel, Archt., Finance Bldg., Kansas City; Dean & Hancock, Contrs., Sedalia; Jno. Gilmore, St. Louis, heating and plumbing. (Lately noted.)

N. C., Lewisville—Forsyth County Board of Education, W. B. Speas, Supt., Winston-Salem, will erect \$35,328 school; C. W. Ernest, Contr.

N. C., Rural Hall—Forsyth County Board of Education, W. B. Speas, Supt., Winston-Salem, will erect \$38,595 school; 1½ stories; brick; W. C. Northup, Archt., Winston-Salem; Kapp Bros., Contrs., both Winston-Salem. (Lately noted.)

Okla., Chickasha—Oklahoma College for Women, Dr. G. W. Austin, Pres., will erect home economics building; cost \$150,000; 3 stories; 168x70 ft.; brick; stone trim; first floor for domestic science; second, domestic art department; third, chemistry, physics and biology departments; will also erect addition to heating plant; cost \$25,000; Layton & Smith, Archts.; Kreipke & Schaefer, Contrs., both Oklahoma City.

Tex., Boyce—School Board will erect building; cost \$17,000; brick; A. A. Few, Contr., Waxahachie, Tex.

Tex., Killeen—School Board will erect \$43,000 building; brick; concrete foundation; F. O. Mott, Contr., Dallas. (Lately noted.)

Tex., Lovelady—School Board, T. C. Stevenson, Sec., will erect \$23,000 building; 2 stories; brick; concrete foundation; C. H. Leinbach, Archt.; F. O. Mott, Contr., both Dallas. (Lately noted.)

Tex., Millett—Board of Trustees, Common School Dist. No. 2, will erect 1-story brick building; Henry T. Phelps, Archt., San Antonio; Lee Peters, Cotulla, Tex., contr. at \$14,000. (Lately noted.)

Tex., San Antonio—Board of Education will erect addition to Los Angeles Heights School; brick, tile and concrete; wood floors; L. Harrington Co., Archts.; A. E. Rheiner & Co., Contrs.; A. H. Shafer, electrical work; Kirkwood & Wharton, plumbing and heating; all San Antonio. (Lately noted.)

Va., Bristol—School Board, Roy Bowers, Supt., will erect grammar school on Mary St.; cost \$119,000; 3 stories; 230x90 ft.;

brick; built-up roof; concrete foundation; wood floors, corridors, concrete; steel sash and trim; hollow fireproof tile; vacuum steam heat; D. R. Beeson, Archt., Johnson City, Tenn.; Holston Construction Co., Contr.; Fred Hayes, heating and plumbing; Cannon Electric Co., electric work; all Bristol, Va. (Lately noted.)

W. Va., Weirton—Butler Dist. Board of Education, W. D. Johnson, Sec., will erect high school; cost \$176,515; 2 stories; 100 x 150 ft.; reinforced concrete and hollow fireproof tile; concrete foundation; composition roof; hardwood and concrete floors; interior tile; plaster bard; metal doors; wire glass; Peterson & Clarke, Archts.; Steubenville Stone Co., Contr.; both Steubenville, Ohio; Steam Electric Co., Wheeling, heating; C. S. Hutton, Weirton, plumbing. (Lately noted.)

Stores.

Ala., Hanceville—Warren & Gladny will erect store; fireproof; J. P. Duren, Contr., Hanceville.

Fla., St. Petersburg—C. M. Roser will erect 2-story business block; hollow tile and stucco; H. V. Walden, Contr., Central Natl. Bank Bldg., St. Petersburg. (Lately noted.)

La., New Orleans—N. Sperlich will erect \$22,000 store and apartment building at St. Charles and Girod Sts.; 2 stories; T. L. Perrier, Archt., Tulane, Newcomb Bldg.; L. J. Woodworth, Contr., both New Orleans.

Md., Baltimore—Klecka & Levy, 801 N. Chester St., will erect \$18,000 building, 2232 E. Monument Ave.; 13x100 ft.; 3 stories; brick; Carey roof; steam heat; Henry Bensen & Son, Contrs., 1820 Aiken St., Baltimore.

N. C., Greensboro—E. D. Golden will erect 2-story building on E. Sycamore St.; Lanning & Co., Contrs., Greensboro.

S. C., Woodruff—S. M. Kilgore will erect building on Main St.; 2 stories; 90x22 ft.; E. T. Thornton, Contr., Enoree.

Tex., Abilene—W. G. Swenson will erect building; cost \$26,000; 50x140 ft.; 2 stories; brick; R. C. Lewis, Contr., Abilene.

Theaters.

Fla., Brooksville—Maillys Bros. will erect moving picture theatre on Main St.; seating capacity 350; C. M. Emerson & Co., Contrs., Tampa.

Warehouses.

La., Shreveport—Booth Furniture Co. will erect warehouse at Texas and Western Aves.; cost \$50,000; 2 stories; brick; 50,000 ft. floor space.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Advertising Specialties—D. N. Tilley, Pilot Mountain, N. C.—To correspond with manufacturers of advertising specialties suitable for free distribution.

Air Compressor—Collins Granite Co., R. F. D. No. 4, Danville, Va.—To purchase 14x12 belt-driven air compressor; used equipment.

Air Compressor—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—12x14 belt driven air compressor, second-hand.

Air Compressor—Hackley Morrison Co., Inc., (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—10x10-in. belt driven air compressor.

Badges (Chauffeur)—See Tags (Automobile), etc.

Barges—U. S. Engineer Office, Cincinnati,

Ohio.—Bids until June 22 to construct and deliver two 1800 bbl. steel oil barges, 100x30x6-ft.

Barges and Boats—Duncan Machinery Co., (Mchy. Dealers) Box 265, Knoxville, Tenn.—Jobbers prices on second-hand and used barges, 14 x 70 ft. or 16 x 90 ft. or 12 x 70 ft.; also on second-hand gasoline boats approximately 12 x 60 ft. with 25 to 40 H. P. gasoline engine; quote prices on boats 6 to 14 tons to be used on Tennessee river; good condition; immediate shipment.

Batch Boxes (Concrete)—See Road Building Equipment.

Blower (Electric Driven)—Duncan Machinery Co. (Mchy. Dealers) Box 265, Knoxville, Tenn.—Jobbers prices on small electric driven blower with motor, suitable to connect to an electric light or A. C., 3 phase,

60 cycle, 220 volt motor; blower used for blowing gas and air into small heater using about 1½ or 2-in. discharge pipe, or a little larger size.

Boats (Gasoline)—See Barges and Boats.

Boiler and Engine—Roaring Springs Marl Lime Co., Gloucester, Va.—One 50 to 100 H. P. boiler and engine.

Boilers—Machinery Clearing House, Indianapolis, Ind.—Prices on boilers of all types from 5 H. P. to 10,000 H. P.

Boilers (Heating)—Treasury Dept., Supv. Archt.'s Office, Washington, D. C. — Bids until June 22 to furnish and install two portable type horizontal smokeless firebox, steel heating boilers at U. S. Post Office and Court House, Chattanooga, Tenn.

Boilers (Return Tubular) — Box 1043, Memphis, Tenn.—Two new or second-hand

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

66-in. x 16 ft. return tubular boilers, without domes, with all standard equipment, single setting; good for 125 lbs. working steam pressure; subject to inspection by Maryland Casualty Co.; give full specifications, location and price on board cars.

Boiler (Water Tube).—City Council, Greensboro, N. C.—Bids until June 15 for 250 H. P. water tube boiler, 200 lbs. working pressure; bids for either of the following or both ways.

1st.—Price on boiler with steel casing and smoke connection to present brick stack, f.o.b. Greensboro, N. C.

2nd.—Price on boiler erected at city pumping station set with steel casing setting and connected to present brick stack; M. M. Boyles, Water Engr.

Brick.—See Paving Materials.

Bridge.—Hamilton County, Chattanooga, Tenn.—Details under Construction News—Bridges, Culverts, Viaducts.

Bridge Construction.—Hemphill County, Canadian, Tex.—Details under Construction News—Bridges, Culverts, Viaducts.

Bridge Construction.—State Highway Comm., Raleigh, N. C., will build 2 bridges. Details under Construction News—Bridges, Culverts, Viaducts.

Bucket (Clam Shell).—A. T. Rossetter, Sanford, Fla.—New or second-hand ½ yd. clam shell bucket.

Building Materials.—Taylor Lumber Co. Rutherfordton, N. C.—Prices on building materials including plate glass, steel girders and lintels for truss work.

Building Material.—Postal Colony Co., Clermont, Fla., Ernest Denslow, Pres.—In market for building material.

Building Material.—M. A. Long Co., Horn Bldg., Guilford Ave. and Fayette St., Baltimore, Md., is estimating on addition and alterations to Strong John Thomson School No. 156, Washington, D. C., and desires sub bids and estimates until June 14.

Bridge.—Travis County, Austin, Tex.—Details under Construction News—Bridges, Culverts, Viaducts.

Cable (Fire Alarm).—Board of Awards, F. A. Dolfield, City Register, Baltimore, Md.—Bids until June 20 to furnish Fire Dept. with cable for fire alarm telegraph department.

Canoes.—John H. Johnson, Gate City, Va. Prices on light weight canoes, for summer resort.

Cars.—See Road Building Equipment.

Cars (Logging).—Duncan Machinery Co. (Mchy. Dealers) Box 265, Knoxville, Tenn.—Jobbers prices on 5 used standard gauge, 30,000 lbs. capacity, 24 to 26-in. diam. of truck wheels, logging cars; complete description, immediate delivery.

Chimney (Brick).—See Steam Distribution System.

Cleaning (Dry) and Pressing Equipment.—See Laundry (Steam), etc.

Columns (Stone).—J. L. Leath, Corinth, Miss.—Bids on stone columns for church,

Compressors (Air).—G. R. Mueller Co. (Manufacturers Agent) Brown-Marx Bldg., Birmingham, Ala.—Direct connected motor driven compressor, 220 volts, 3 phase, 60 cycle, 600 cu. ft. capacity, complete with unloading device, also steam driven compressor, 400 cu. ft. capacity; give condition, location, factory number, shipping weight, complete specifications and price for resale.

Concrete Paving Equipment.—See Paving Equipment.

Concrete Paving Mixer.—See Paving Equipment.

Cornice (Metal).—J. L. Leath, Corinth, Miss.—Bids on metal cornice for church, 50x68 feet.

Cotton Opener Machine.—Tomas Botas, Caibarien, Cuba.—To purchase cotton opener machine similar to those used in manufacture of mattresses; new or second-hand.

Cranes.—See Road Building Equipment.

Drainage.—Fowl River Drainage Dist. No. 1, Fowl River, Ala. Details under Construction News.—Drainage System.

Crusher (Gyratory).—Island Sand & Gravel Co., Columbus, Ohio.—No. 3 Yates gyratory crusher, state if right or left hand.

Cylinder Grinding Machinery.—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Cylinder grinding machinery.

Dies (Sheet Metal Stamping).—John H. Perry, Navy Yard, S. C., Route No. 2, Box 151—To correspond with manufacture dies for sheet metal stamping or punching out special shapes.

Drainage.—Commrs. Ascalmore Drainage Dist. No. 1, Charleston, Miss.—Details under Construction News—Drainage Systems.

Dredging.—Board of Awards, F. A. Dolfield, City Register, Baltimore, Md.—Bids opened June 13 for dredging in Baltimore harbor; Bancroft Hill, Harbor Engr., Recreation Pier, Broadway.

Dryer.—Roaring Springs Marl Lime Co., Gloucester, Va.—One dryer suitable to dry shells, capacity not less than 3 tons per hour.

Electric Generator Set.—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—100 to 150 K. W., 125 volt, D. C. engine-generator unit, side crank, late type, second-hand.

Electrical Equipment.—Machinery Clearing House, Indianapolis, Ind.—Prices on direct connected electrical units of all types.

Engine.—See Tank (Water) and Pump, etc.

Engine (Hoisting).—Roaring Springs Marl Lime Co., Gloucester, Va.—20 to 30 H. P. hoisting engine with double drums suitable for drag line or cable way.

Engine.—See Boiler and Engine.

Engine (Kerosene).—A. T. Rossetter, Sanford, Fla.—New or second-hand 20 H. P. kerosene engine.

Engine (Oil).—See Pumping Plant.

Engine (Oil).—City of Murray, Ky., M. T. Morris—New or second-hand oil engine, 200 H. P.

Engine (Oil).—Alex. M. Robinson (Manufacturers Agents) Georgetown, Ky.—Dealers prices on one 40, 50 or 60 H. P. oil engine, good used equipment; immediate delivery in Kentucky.

Envelopes (License Tag).—See Tags (Automobile), etc.

Extract of Walnut.—Chas. W. Jacob & Allison, 18 Cedar St., New York.—To purchase extract of walnut made from walnut shells.

Feed Water Heater.—Box 1043, Memphis, Tenn.—New or second-hand closed type pressure feed water heater, 250 H. P., good for 150 lbs. boiler pressure; give full specifications, location and price on board cars.

Fire Alarm Systems.—City of Sylacauga, Box 72, Sylacauga, Ala.—To correspond with manufacturers of fire alarm systems for small towns.

Fire Escapes (Gravity or Sliding).—V. M. Cooper & Co., Box 38, Atlanta, Ga.—Data and prices on gravity or sliding fire escapes, both open and enclosed types; correspond with manufacturers.

Flooring (Maple).—Jas. C. Hemphill,

Greenwood, S. C.—Quotations on clear maple flooring, 13/16x2¼ inches.

Fuel Oil.—City Commr., W. A. Evans, Chm., Jacksonville, Fla.—Bids until June 25 to furnish fuel oil in required amounts and at stated points of delivery; for information apply to Frank H. Owen, Commr. of Utilities, City Hall, or O. Z. Tyler, Supt. of Plant, Engineer Bldg., Main and Orange Sts.

Fuel (Shavings) Process.—W. L. Brissey Lumber Co., Anderson, S. C.—Data and information on packing shavings into blocks or sticks about 3-in. diam. and 10 or 12-in. long using for fuel.

Furniture, etc.—Ed. T. Murphy, Polk County Judge, Livingston, Tex.—Bids until June 18 for furniture and other equipment required by Polk County court house; Jno. McLeland, Archt., 310 Woolworth Bldg., Houston, Tex.

Glass (Plate).—See Building Materials.

Graders.—See Paving Equipment.

Hoists (Mine).—R. P. Johnson (Mchy. Dealers), Wytheville, Va.—Dealers prices on secondhand D. C. single or double drum, 50 to 75 H. P. link motion mine hoist, without boiler, main drum to hold 2000 ft. of ¾-in. cable; also dealers price on secondhand 40 to 60 H. P. single or double drum mine hoist, with or without boiler, main drum to hold 2500 ft. of ¾-in. cable.

Hydrants.—See Pipe (Cast Iron), etc.

Hydrants (Fire).—See Tank (Water) and Pump, etc.

Iron (Sheet).—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Galvanized sheet iron.

Land Clearing Machinery.—Postal Colony Co., Clermont, Fla., Ernest Denslow, Pres.—Improved machinery for clearing land.

Lathe.—Box 732, Orlando, Fla.—One 30-in. heavy duty screw cutting engine lathe and equipment; state price, condition, complete specifications.

Lathes (Engine).—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—One 24 in. engine lathe, 12 ft. between centers and one 36 to 42 in. lathe, 22 to 24 ft. between centers.

Laundry Equipment.—H. H. Elliott, Andrew, N. C.—Data and prices on equipment for small steam laundry.

Laundry (Steam) Equipment, etc.—M. B. Overman, 510 Kenan St., Wilson, N. C.—Prices and data on fully equipped steam laundry plant to care for population of 13,000; also dry cleaning and pressing equipment in connection with laundry plant.

Lintels.—See Building Materials.

Lubricants, Greases, etc.—Panama Canal, A. L. Flint, Gen. Pur. Officer, Washington, D. C.—Bids until July 5 to furnish gear, chain and wire rope lubricant; greases and cotton waste. Blank forms and information (Circ. 1535) on application to offices of Panama Canal; Asst. Pur. Agts. at 24 State St., New York, 611 Gravier St., New Orleans, Fort Mason, San Francisco, Cal.; also U. S. Engineer Offices throughout the country.

Metal Perforating Machine.—Welsh Machine Shops, Welsh, La.—Metal perforating machine with capacity for 1/8-in. slot from ½ to 1½ in. long through No. 8 tank steel.

Miscellaneous Supplies.—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until June 29 to furnish: Iron and steel; steel and iron rope; special bronze; sheet copper; iron or steel pipe; dynamite; detonators; manila and cotton rope; lamp cord; steel springs; valves; unions; glass; pressure switch air separators; elevator switches and gears; milk bottles and caps; gasoline meters; hydrants;

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ranges; shovels; wrenches; ladders; linoleum, mastic flooring and flux; paints; varnishes; paper towels and napkins; cotton sheets and pillow cases; soap, etc. Blank forms and information (Circular 1534) on application to offices of Panama Canal; Asst. Purchasing Agents at 24 State St., New York; 611 Gravier St., New Orleans, La.; Fort Mason, San Francisco, Cal.; also U. S. Engineer officer throughout country.

Motor (Electric)—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Electric motor.

Motor (Slip Ring)—G. R. Mueller Co. (Manufacturers Agents) Brown-Marx Bldg., Birmingham, Ala.—125 or 150 H. P., slip ring motor, 220 volt, 3 phase, 60 cycle, speed 600 to 1200 R.P.M.; complete with starter, base and pulley; give condition, location, factory number, shipping weight, complete specifications and price for resale.

Motors (Slip Ring)—H. W. Dexter, (Mchy. Dealers) Box 665, Jacksonville, Fla.—Two 100 or two 150 H. P. 3 phase, 60 cycle, 2300 volt slip ring motors, 1200 to 1800 R. P. M., second-hand, good condition.

Nails—Duval County Commrs., Frank Brown, Clerk, Jacksonville, Fla.—Bids until June 21 to furnish 30 kegs of 60-penny, 10 kegs of 20 penny and 10 kegs of 8 penny common nails; state price delivered at County Prison Farm.

Oil (Crude)—The Hardware Store, Inc., Siler City, N. C.—To purchase low grade of crude oil for street sprinkling.

Painting and Plastering—Treasury Dept., Supvg. Archt.'s Office, Washington, D. C.—Invite bids for painting and plastering in the U. S. Post Offices as follows: June 25, post office at Glenwood, Iowa and Woodward, Okla.; June 26, post offices at Sunbury, Pa., and Shelbyville, Ind.; June 27, post offices at Waynesboro, Va. and Vernon, Texas; June 28, post office at Bartow, Fla., and June 29, post office at Deland, Fla.

Pavers—See Road Building Equipment.

Paving—City of St. Albans, W. Va.—Details under Construction News—Road and Street Construction.

Paving—City of Clarksburg. Details under Construction News—Road and Street Construction.

Paving—City of Burlington, N. C. Details under Construction News—Road and Street Construction.

Paving—City of Tampa, Fla. Details under Construction News—Road and Street Construction.

Paving—City of Charleston, W. Va.—Details under Construction News—Road and Street Construction.

Paving—Town of Arcadia, La. Details under Construction News—Road and Street Construction.

Paving and Sewer Construction—City of Miami Beach, Fla.—Details under Construction News—Road and Street Construction.

Paving Equipment—City of St. Albans, W. Va.—Prices on paving equipment, including concrete paving mixer, concrete paving equipment, road oiling equipment, rollers, graders for street paving; H. O. Palmer, City Clk.

Paving Materials—City of St. Albans, W. Va.—Prices on paving materials, including brick, sand, slag, stone, road binders, for street paving; H. O. Palmer, City Clk.

Pipe (Cast Iron)—Henry Clark Bridges, Pres., East Carolina Railway, Tarboro, N. C.—One car of mixed 6 and 8-in. cast iron pipe for water mains.

Pipe (Cast Iron), etc.—Ryan Engineering Co., Columbia, S. C.—Bids until June 15 to

furnish (not install) cast iron pipe, valves, and hydrants.

Pipe (Steel Galvanized)—See Tank (Water) and Pump, etc.

Pipe Cutter—See Tank (Water) and Pump, etc.

Pipe (Galvanized)—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Galvanized piping.

Pipe (Untested Steel)—National Standard Co., Box 211, Niles, Mich.—To purchase the following untested steel pipe and can take accumulations at the pipe mills in reasonable size quantities: $\frac{3}{4}$ -in. Standard cut 13-in. long or multiple thereof, plain ends; 1-in. Standard cut 55-in. long, plain ends; 1-in. E. H. cut 67-in. or 70-in. long plain ends; $1\frac{1}{2}$ -in. Standard cut 84-in. long, plain ends; 2-in. Standard cut, 72-in. long, plain ends.

Pipe Cutting and Threading Machinery—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Power pipe cutting and threading machinery.

Pipe Making Machinery (Spiral, Riveted)—Welsh Machine Shops, Welsh, La.—Machine for making spiral riveted pipe, of sufficient size to form pipe from 6 to 24-in. in diam. and lengths up to 20 ft., gauges of tank steel ranging from No. 16 to smaller diam. and up to No. 10, machine capable of using cold rivets in sizes for the different gauges of tank steel.

Piping—See Steam Distribution System.

Plastering—See Painting and Plastering.

Pump—See Tank (Water) and Pump, etc.

Pump—Roaring Springs Marl Lime Co., Gloucester, Va.—Pump suitable for removing overburden.

Power House—See Steam Distribution System.

Pump House—See Pumping Plant.

Pumping Plant—Carroll County Drainage & Levee Dist. No. 1, H. P. Greison, Secy., Savanna, Ill.—Bids until June 26 for oil-engine driven pumping plant, containing a 30 in. double suction centrifugal pump; Elliott & Harman Engineering Co., Engrs., Peoria, Ill.; bids also received for building to house plant.

Pumps (Dredge)—U. S. Engineer Office, 329 Custom House, New Orleans, La.—Bids until July 5 to construct and deliver two 20-in. dredge pumps.

Road—Berkeley County, Martinsburg, W. Va. Details under Construction News—Road and Street Construction.

Road—Abbeville County, Abbeville, S. C.—Details under Construction News—Road and Street Construction.

Road—State Highway Comm., Montgomery, Ala.—Details under Construction News—Road and Street Construction.

Road—Tallahatchie County, Sumner, Miss.—Details under Construction News—Road and Street Construction.

Road Binders—See Paving Materials.

Road Building Equipment—Baker Royer Co., Box 601, Richmond, Va.—To purchase good used equipment including, two cranes, industrial track, batch boxes, cars, two 21 pavers and miscellaneous equipment.

Road Construction—State Highway Comm., Raleigh, N. C., will build 27 roads. Details under Construction News—Road and Street Construction.

Road Oiling Equipment—See Paving Equipment.

Road Roller—Dixie Machinery Co., Inc., Shreveport, La.—Kelly-Springfield 10-ton steam road roller, good operating condition; state price, condition, etc.

Roller (Tandem)—Alex M. Robinson

(Manufacturers Agents), Georgetown, Ky.—Dealers prices on one standard make tandem roller, good used condition; state price, location and full specifications; immediate delivery in Kentucky.

Rollers—See Paving Equipment.

Roof—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C.—Bids until July 2 for alterations and repairs to roof at Auditor's Bldg.; specifications and drawings from office of supervising Archt.

Roofing—A. D. Wiseman, Adel, Ga.—Com-position roofing for church, 72x76 ft.

Sand—See Paving Materials.

Saw (Hack)—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—One power hack saw.

Screws (Threaded)—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Large screws threaded.

Seating (Church)—A. D. Wiseman, Adel, Ga.—Pews for church 72x76 ft.

Seawall—City of Vicksburg, Miss.—Details under Construction News—Miscellaneous Construction.

Sewer—Atlanta, Ga.—Details under Construction News—Sewer Construction.

Sewer—City of Ashland, Ky.—Details under Construction News—Road and Street Construction.

Sewer—City of Clarksburg, W. Va.—Details under Construction News—Road and Street Construction.

Sewer—Glen Burnie, Md.—Details see Construction News—Sewer Construction.

Sewers—Linthicum Heights, Md.—Details under Construction News—Sewer Construction.

Sewer Construction—City of Huntington, W. Va.—Details under Construction News—Sewer Construction.

Sewer Construction—City of Marietta, Ga.—Details under Construction News—Sewer Construction.

Shafting (Steel)—Jacksonville Engine & Machine Works, 142 S. Ocean St., Jacksonville, Fla.—Steel shafting.

Shovel (Gasoline or Steam)—H. W. Deuter (Mchy. Dealer) Box 665, Jacksonville, Fla.— $1\frac{1}{4}$ or $1\frac{1}{2}$ yd. full crawler type gasoline or steam operated shovel, second-hand, Marion, Bucyrus or Erie preferred.

Shovel (Steam)—Buckhannon Brick Co., Buckhannon, W. Va.— $\frac{1}{2}$ -yd. steam shovel mounted on crawler type base, if secondhand must be in good condition.

Shovel (Steam)—Roaring Springs Marl Lime Co., Gloucester, Va.—One steam shovel $\frac{1}{2}$ to $\frac{3}{4}$ -yd. capacity, ordinary tractor type preferred.

Sidewalk Construction—City of Miami, Fla.—Details under Construction News—Road and Street Construction.

Sidewalks (Concrete)—Treasury Dept., Supvg. Archt.'s Office, Washington, D. C.—Bids until June 25 for concrete sidewalks at Public Health Service Hospital, No. 42, Perryville, Md.; plans, etc., on file, or from Supt. of Construction, P. H. S. Hospital, Perryville.

Slag—See Paving Materials.

Soldering Fluid—International Filler Corp., Box 414, Petersburg, Va.—To correspond with manufacturers of soldering fluid.

Sprinkler (Street)—The Hardware Store, Inc., Siler City, N. C.—Prices on street sprinkler.

Starch Manufacturing Plant—Jas. A. Hill, Abbeville, S. C.—Prices and data on equipment for starch manufacturing plant, starch such as used by cotton mills.

Starters (Electric Motor).—Hackley Morrison Co., Inc. (Mchy. Dealers) 1708 Lewis St., Richmond, Va.—To purchase 25 new or used starters for A. C. Motors, sizes 7½ to 20 H. P., 440 volt and 220 volt; special correspondence solicited with purchasers of Government surplus starters.

Steam Distribution System, etc.—Dr. F. M. Bralley, Pres., Board of Regents at the College of Industrial Arts, Denton, Tex.—Bids until June 16 for labor and materials required to remodel present steam distribution system on college campus, including powerhouse extension, concrete tunnels, piping and new radial brick chimney; R. F. Taylor, Conslt. Engr., 1019 Western Indemnity Bldg., Dallas, Tex.

Steel Girders.—See Building Materials. **Stone.**—See Paving Materials.

Steel Plant.—R. L. Beasley, Gadsden, Ala.—To purchase 12 ton capacity steel plant.

Tags (Automobile), etc.—Ernest Amos, Comptroller, Tallahassee, Fla.—Bids until June 25 to furnish to the State of Florida for year 1924 approximately 175,000 automobile license tags, 210,000 aluminum embossed weight inserts, 175,000 license tag envelopes and 3000 chauffer badges.

Tank (Water) and Pump, etc.—Marine Corps, Quartermasters Dept., Washington, D. C.—Bids until June 21 to furnish one 25,000 gal. capacity wood water tank and one steel tower, 30 ft. with drop and stand pipe; 1 unit consisting of centrifugal pump direct-connected and including engine; eight Standard fire hydrants; 2100 ft. 3-in. steel galvanized pipe, with couplings; also crosses, tees, ells, brass gate valves, brass check valves, set stock and dies, adjustable pipe cutter, and Stillson wrenches; delivery to Naval Operating Base, Hampton Roads, Sewells Point, Va. (Sch. 505.)

Tile (Ceramic).—Flowler-Flemister Coal Co., Milledgeville, Ga.—To purchase several thousand feet of one-inch Hexagen white ceramic tile; correspond with manufacturers.

Tile (Promenade).—Jas. C. Hemphill, Greenwood, S. C.—Quotations on 6x6-inch red promenade tile.

Track (Industrial).—See Building Equipment.

Tractors.—Postal Colony Co., Clermont, Fla., Ernest Denslow, Pres.—In market for tractors.

Tractors (Crawler type).—Dade County Commrs., Ben Shepard, Clk., Miami, Fla.—Bids open for the furnishing of ten (10) ton Holt crawler type tractors.

Tunnels (Concrete).—See Steam Distribution System.

Valves.—See Pipe (Cast Iron), etc.

Valves.—Board of Awards, F. A. Dolfeld, City Register, Baltimore, Md.—Bids until June 20 to furnish and deliver valves to the water department; specifications with Wm. A. Megraw, Water Engr., Room 204, City Hall.

Water and Sewer.—City of Burlington, N. C. Details under Construction News—Road and Street Construction.

Waterworks.—City of Baird, Tex.—Details under Construction News—Water Works.

Water Works.—Madisonville, Tenn., Details under Construction News—Water Works.

Wire.—See Cable (Fire Alarm.)

Wiring Installation. (Electric Light and Power).—Louisiana State University, R. L. Himes, Sec., Building Comm., Baton Rouge, La.—Bids until June 15 for electric light and power wiring equipment in administration building and Boyd Alumni Hall; Theo. C. Link, Archt., Baton Rouge, La.

Woodworking Machinery — Machinery Clearing House, Indianapolis, Ind.—Prices on all kinds of woodworking machinery.

Wool Mill Machinery.—C. C. Kirkpatrick, Pres., Board of City Development, San Angelo, Tex.—Data and prices on wool mill machinery, with view to establishing mill.

Financial News

New Financial Corporations.

Ala., Birmingham—Higgins Investment Co., incorporated with J. D. Higgins, Pres.; H. A. McWhorter, Vice-Pres.

Fla., Everglades—Bank of Everglades, capital \$25,000, incorporated with Barron, Collier, Pres.; John Law Kerr, First Vice-Pres.

Fla., Orlando—Orlando Real Estate & Finance Co., capital \$15,000, incorporated with H. E. Sanderson, Pres.; C. E. Sanderson, Vice-Pres.

Fla., Sanford—Sanford Loan & Savings Co., capital \$100,000, incorporated with Fred. W. Pledger, Pres.; C. E. Deane, Vice-Pres.

Fla., St. Petersburg—Sunshine Securities Corporation, capital \$50,000, incorporated with John D. Grance, Pres.; E. R. Kirdland, Vice-Pres.

Md., Baltimore—Eutaw Building and Loan Assn., capital \$500,000, incorporated by Isaac Kline, Benjamin Voloshen and Nathan Voloshen.

Miss., Indianola—Indianola Insurance Agency, incorporated with W. R. French, M. A. Moore and C. J. Van Arsdall.

Mo., Ironton—Iron County Abstract Co., incorporated by W. R. Edgar, Arthur Huff, Louise Kuhn, Blanche M. Evans.

Mo., St. Louis—Alpha Investment Co., incorporated by C. D. Blake, Charlotte D. Blake, F. B. Coleman, Irma Coleman.

Mo., Springfield—Fidelity Savings and Loan Assn., capital \$1,000,000, incorporated by Walter H. Henderson, Ed. V. Williams and D. F. Schultz.

N. C., Rutherfordton—Western Finance & Realty Co., incorporated with E. B. Johnson, Pres.; Dr. J. C. Twitty, Vice-Pres.; M. T. Wilkie, Treas.

S. C., Columbia—Federal Land Bank, incorporated with E. A. Houston, Pres.; H. C. Arnold, Sec.; Allan Greeley, Treas.

Tex., Galveston—United States Securities Corp., capital \$50,000, chartered by F. S. Abney, R. L. Mauldin, R. L. Mauldin, Jr.

Tex., San Antonio—Securities Loan and Investment Co., capital \$25,000, incorporated by A. Saladino, A. H. Gans, F. Reinhart.

Va., Lynchburg—Oglesby Insurance Co., capital \$25,000, incorporated with King Terrell, Pres.; S. R. Oglesby, Vice-Pres.

W. Va., Charleston—King Insurance & Bonding Co., capital \$30,000, incorporated by M. H. King, W. E. Chilton, Jr., and others.

New Securities.

Ala., Albany—Street—City sold \$125,000 bonds, F. A. Bloodworth, City Treas.

Ala., Bessemer—School—City voted \$150,000 bonds. Address The Mayor.

Ala., Greensboro—School—Greensboro voted \$10,000 bonds. Address The Mayor.

Ala., Montgomery—School—City will receive bids until July 6 for \$250,000 bonds. Address The Mayor.

Ark., Halley—School—Halley Special School Dist. will open bids June 9 for \$15,000, 6% bonds; W. D. Halely, Sec. School Bd.

Ark., Little Rock—School—Little Rock Special School Dist., will receive bids until June 11 for \$120,000, 5% bonds; Lillian D. McDermott, Dist. Sec.

Fla., Avon Park—School—City will vote June 29 on \$75,000 bonds. Address The Mayor.

Fla., Dania—School—Dania voted \$20,000 bonds. Address The Mayor.

Fla., Ft. Lauderdale—School—City voted \$60,000 bonds. Address The Mayor.

Fla., Gainesville—Improvement—City will receive bids until July 12 for \$300,000, 5% bonds; Drayton Avera, Sec. Bd. of Directors.

Fla., Jacksonville—Street—City sold \$315,000 bonds to G. B. Sawyer & Co. of Jacksonville at a premium of \$3308. Address The Mayor.

Fla., Miami—Municipal—City sold \$2,739,000 bonds to a syndicate composed of: Sidney Spitzer & Co., Toledo; Prudden & Co., Toledo; Caldwell & Co., Nashville, Tenn.; Provident Savings Bank & Trust Co., Cincinnati; Breed-Elliott-Harrison, Cincinnati; Atlantic National Bank, Jacksonville; Spitzer, Rorick & Co., Toledo; N. M. Grant & Co., New York; Roth & Irving Co., New York; B. J. Van Ingen & Co., New York; Seasongood & Mayer, Cincinnati and Powers & Young, Miami, sale price \$2,675,400. Address The Mayor.

Fla., Orlando—Road—Orange County will receive bids until July 6 for \$496,000, 5% bonds. Address County Commrs.

Fla., Pompano—School—Pompano voted \$15,000 bonds. Address The Mayor.

Fla., St. Petersburg—Road, Bridge—Pinellas County voted \$2,863,000 bonds, including \$2,567,000 for roads, and \$266,000 for bridges. Address County Commrs. (Late-ly noted.)

Fla., Seneca—School—City sold \$50,000 bonds. Address Bd. of Trustees.

Fla., Sulphur Springs—School—City sold \$10,000 bonds to the Hillsborough State Bank of Plant City at par and accrued interest. Address The Mayor.

Fla., Wabasso—Bridge—St. Lucie County will vote June 22 on \$75,000 bonds. Address County Commrs.

Ga., Tybee—Paving—Town voted \$110,000 bonds; E. George Butler, Mayor. (Late-ly noted.)

Ky., Paris—Road and Bridge—Bourbon County sold \$100,000, 5½% bonds to Harris Trust & Savings Bank of Chicago. Address County Commrs.

La., Covington—School—St. Tammany Parish School Dist. No. 8 sold \$85,000, 6% bonds to Hibernia Securities Co., of New Orleans, at par plus a premium of \$2001. Address School Dist. Trustees.

La., Lake Charles—Channel—Calcasieu Parish sold \$2,750,000 bonds to Sutherlin, Barry & Co. and Caldwell & Co., of New Orleans, at par and accrued interest and a premium of \$16,500. Address Parish Police Jury.

La., Marksville—School—Avoyelles Parish will receive bids until June 26 for \$150,000 bonds; Foster Couvillion, Pres.

La., Monroe—Road—Morehouse Parish Road Dist. No. 1 will sell \$820,300, 5%, \$1000 denom. bonds; C. N. Dalton, Clk., Police Jury.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

La., Natchitoches—Road—Natchitoches Parish Road Dist. No. 30 sold \$125,000 bonds to Interstate Bank & Trust Co. of New Orleans and L. E. French, Alexandria, La. at par and accrued interest and a premium of \$5762.50. Address Parish Police Jury.

La., Natchitoches—Road—Natchitoches Parish, Road Dist. No. 31 will receive bids until June 12 for \$125,000 bonds. Address Parish Police Jury.

Md., Annapolis—Indebtedness—State sold \$1,650,000 bonds to a syndicate headed by Alexander Brown & Sons of Baltimore, at \$101.5713; Albert C. Ritchie, Gov.

Miss., Anguilla—School—Anguilla, voted \$75,000 bonds. Address The Mayor.

Miss., Bay St. Louis—School—City will vote June 30 on \$100,000 bonds. Address The Mayor.

Miss., Belzoni—Light, Water and Sewer—City sold \$90,000, 5½% bonds to the Bank of Commerce & Trust Co. of Memphis Tenn. Address The Mayor.

Miss., Belzoni—Road—The Bank of Commerce & Trust Co. of Memphis, Tenn., purchased \$150,000 Central Road Dist., Humphrey County bonds. Address County Commrs.

Miss., Belzoni—Road—Humphreys County, Beat 1, voted \$150,000 bonds. Address County Commrs.

Miss., Charleston—Drainage—Ascalmore Drainage Dist. No. 1, will receive bids until June 26 for \$80,000, 6% bonds; Richard Denman, Atty.

Miss., Mechanicsburg—School—Mechanicsburg voted \$5000 bonds. Address Bd. of Education.

Miss., Pass Christian—School—City will vote June 19 on \$30,000 bonds. Address Bd. of Suprs.

Miss., Shuqualak—Sewer—Town will vote June 18 on \$2000 bonds. Address The Mayor.

Miss., Vicksburg—Sea Wall—City will receive bids until June 18 for \$125,000, 5%, \$1000 denom. bonds; J. J. Hayes, Mayor.

Mo., Cameron—School—City will vote June 22 on \$12,000 bonds. Address Bd. of Education.

Mo., Canalou—School—Canalou Consolidated School Dist. No. 2 voted \$35,500 bonds. Address School Dist. Trustees.

Mo., Jefferson City—Bonus—State will postpone election which was to have been held July 10 to vote on \$4,600,000 bonds; Mr. Hyde, Gov. (Supersedes previous item.)

Mo., Webb City—Indebtedness—City will hold an election on \$27,000 bonds. Address The Mayor.

N. C., Bayboro—Pamlico county will receive bids July 2 for \$100,000, 5½% bonds; Z. V. Rawls, County Atty.

N. C., Danbury—Road—Stokes County sold \$60,000 bonds at a premium of \$3666.55 to Sidney Spitzer & Co., of Toledo, Ohio.

N. C., Fairmont—Water and Sewer—Town will receive bids until June 29 for \$30,000, 6% bonds; J. R. Bracey, Clk.

N. C., Fayetteville—Road and Bridge—Cumberland County will receive bids until June 19 for \$210,000, 5% bonds. Address County Commrs.

N. C., Fayetteville—School—Pearces Mill Township School Dist. will receive bids until June 19 for \$75,000 bonds; C. C. Howard, Clk. County Commrs.

N. C., Henderson—Paving—City voted \$200,000 bonds; A. A. Bunn, Mayor. (Lately noted.)

N. C., Jacksonville—Road—Onslow County will receive bids until July 9 for \$100,000, 6%, \$1000 denom. bonds; I. E. Ketchum Clk.

N. C., Marion—Courthouse—McDowell County Bd. of Commrs. will receive bids until July 9 for \$60,000 bonds; J. L. Lackey, Chmn.

N. C., Marshall—Road—Madison County will receive bids until June 23 for \$50,000, 6% bonds; J. C. Chandler, Chmn. Bd. of Comrs.

N. C., Mocksville—School—Mocksville School Dist. will receive bids until June 18 for \$45,000 bonds; R. B. Sanford, Secy.

N. C., Mount Airy—Street and Indebtedness—City sold \$65,000, 5½% bonds to Stacy & Braun, Toledo, Ohio. Address The Mayor.

N. C., New London—Light—Town will receive bids until June 16 for \$10,000, 6% bonds; J. W. P. Hill, Sec.

N. C., Rockingham—Street and Water—City sold \$125,000 bonds to Otis & Co. of Cleveland at a premium of \$432. Address The Mayor.

N. C., Rowena—School—Rowena Consolidated School Dist. will receive bids until June 15 for \$20,000, 5%, \$500 denom bonds; W. R. Taylor, Clk. Bd. of Education.

N. C., Roxboro—Water, Sewer and Public Improvement—Town will receive bids until June 18 for \$230,000 bonds; Hattie Burch, Clk.

N. C., Walnut Cove—School—Walnut Cove sold \$15,000 bonds. Address Bd. of Education.

N. C., Whitakers—Light—Town will receive bids until June 22 for \$10,000, 6% bonds; J. E. Cutchin, Clk.

Okla., McAlester—Waterworks—City voted \$275,000 bonds. Address The Mayor.

Okla., Perry—Road—Noble County voted June 12 on \$625,000 bonds. Address County Commrs.

Okla., Stillwater—School—Stillwater School Dist. voted \$110,000 bonds. Address School Dist. Trustees.

Okla., Tulsa—Municipal—City voted \$250,000 bonds. Address The Mayor.

S. C., Anderson—Drainage—Generostee Creek Drainage Dist. will receive bids until June 23 for \$33,000, 6% bonds; J. S. Fowler, Commr.

S. C., Chesterfield—School—Chesterfield School Dist. 18 will sell \$16,000, 5% bonds June 15. (Supersedes previous item); W. P. Gdom, Chmn.

S. C., Green Pond—School—Green Pond Dist. No. 93 voted June 12 on \$6700 bonds. Address School Dist. Trustees.

S. C., Greenville—School—Parker School Dist. sold \$300,000, 5% bonds to Stacy & Braun of Toledo at par plus a premium of \$1800. Address School Dist. Trustees.

S. C., Kings Creek—School—Kings Creek and Corinth each voted \$5000 bonds. Address W. C. McArthur, County Supt.

S. C., Laurens—Road—Laurens County will vote between July 15 and Aug. 15 on \$275,000 bonds. Address County Commrs.

S. C., Seneca—Paving—Town will vote June 22 on \$48,000 bonds. Address The Mayor.

S. C., York—Road—York County will receive bids until July 11 for \$40,000, 6% Bullocks Creek Township bonds; Hugh G. Brown, Supvr. of York County.

Tenn., Chattanooga—School—City will vote July 10 on \$750,000 bonds. Address The Mayor.

Tenn., Huntington—School—City voted \$50,000 bonds. Address The Mayor.

Tenn., Jasper—Courthouse—Marion County sold \$40,000, 5½% bonds to Caldwell & Co. of Nashville, for par and \$500 premium. Address County Commrs.

Tenn., Lenoir City—School—City will vote July 7 on \$40,000 bonds. Address The Mayor.

Tenn., Paris—Warrants—Henry County voted \$85,000 bonds; D. T. Spaulding, County Judge.

Tenn., Rockwood—Indebtedness—City voted \$50,000 bonds. Address The Mayor.

Tenn., Sharon—School—Sharon Special School Dist. voted \$10,000 bonds. Address School Dist. Trustees.

Tex., Carthage—Road—Panola County Road Precinct No. 2 sold \$100,000 bonds to the Blanton Banking Co. of Houston at par.

Tex., Denton—School—City will vote June 19 on \$200,000 bonds. Address The Mayor.

Tex., Floresville—Road—Wilson County Commrs. Court., J. E. Canfield, County Judge, Precincts Nos. 1, 3 and 4, voted \$250,000 bonds. (Lately noted.)

Tex., Honey Grove—School—Honey Grove votes June 9 on \$3500 bonds. Address Bd. of Education.

Tex., Hubbard Hill—School—City will vote June 26 on \$10,000, 5½% bonds; H. C. Bishop, City Sec.

Tex., Idalou—School—Idalou Independent School Dist. voted bonds. Address Dist. Trustees.

Tex., Johnson City—Road—Blanco County, Precinct No. 1, voted \$17,500 bonds; Wm. Martiny, County Judge.

Tex., Levelland—Levelland sold \$50,000 bonds subject to their being voted. Address The Mayor.

Tex., Lingleville—School—Lingleville Independent School Dist. votes June 9 on \$14,000, 5% bonds; G. F. Wilcoxon, Sec.

Tex., Megargel—School—City voted \$10,000 Bonds. Address The Mayor.

Tex., Minden—School—Minden Independent School Dist. sold \$10,000, 5% bonds to the State of Texas at par and accrued interest. Address School Dist. Trustees.

Tex., Pilot Point—School—Pilot Point Independent School Dist. voted \$50,000 bonds. Address School Dist. Trustees.

Tex., Ranger—School—Ranger Independent School Dist. sold \$40,000, 5% bonds to State Bd. of Education. Address School Dist. Trustees.

Tex., Snyder—Hospital—Scurry County sold \$59,000 bonds to Geo. L. Simpson & Co., of Dallas, at par, plus a premium of \$1010. Address County Commrs.

Tex., Waco—School—Independent School Dist. 1½ voted \$24,000 bonds. Address Dist. Bd. of Trustees.

Tex., Waco—School—Caddenhead voted \$15,000 bonds. Address The Mayor.

Tex., Waxahachie—Road—Ellis County will vote June 30 on \$750,000 bonds. Address County Commrs.

Va., Glade Spring—School—Glade Spring Magisterial Dist. will sell \$20,000, \$1000 denom. bonds. Address County School Bd.

Va., Hampton—Road—Elizabeth City County will receive bids until June 27 for \$200,000, 5% Chesapeake Dist. bonds; H. H. Holt, Clk.

Va., Middletown—Waterworks and Sewer—City will vote on bonds. Address The Mayor.

Va., Portsmouth—Road and Bridge—Norfolk County will receive bids until July 10 for \$200,000, \$1000 denom. bonds; G. Taylor Gwathmey, Clk.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Va., Richmond—Street, Water and Public Impvt.—City will sell \$1,500,000 bonds June 19. Barton H. Grundy, Chmn. Comn. of Finance.

W. Va., Charleston—School—Charleston Independent School Dist. voted \$1,350,000 bonds. Address School Dist. Trustees.

W. Va., Charleston—School—State Sinking fund Comm. will sell \$224,000 Huntington Independent School Dist. bonds in Charleston June 16.

W. Va., Williamson—Road—Mingo County will vote June 23 on \$160,000 bonds. Address County Commrs.

W. Va., Williamson—Road—Mingo County, Warfield Dist. voted \$156,000 bonds. Address County Commrs.

Financial Notes.

Alabama Home Building and Loan Assn., Birmingham, Ala., increased capital to \$25,000,000.

Louisville Title Co., Louisville, Ky., will increase capital from \$500,000 to \$1,000,000.

Southwest Louisiana Farm Mortgage Co., Lake Charles, La., contemplates increasing capital from \$375,000 to \$500,000.

Trade Literature.

Powerful Rivet-Cutting Tool.

A handy little pocket size bulletin about the "Red Devil" rivet cutter has been issued by the Rice Manufacturing Company, 1011 Fletcher Savings & Trust Building, Indianapolis Ind. This rivet cutter is a pneumatic tool designed solely to cut and back out rivets. The principle is that of a plunger, driven in a long barrel by compressed air, striking a chisel head. Its heavy blows, it is stated, will cut rivets 1¼ inches thick and cold, in an average of ten seconds. Three to five blows will cut one-inch rivets. The bulletin, which is illustrated, contains full and interesting descriptions of this tool and the work it does.

Large Pumping Equipment Described.

The pumping equipment of the immense new refinery of the American Sugar Refining Co. at Baltimore, is described in a leaflet published by the DeLaval Steam Turbine Co., Trenton, N. J. The plant, situated on a 21 acre tract, comprises 15 separate buildings from one to ten stories high, a large part of the work of handling liquids is performed by centrifugal pumps and the equipment includes 62 individual pumps ranging in capacity from 50 gals. per min. to 5500 gal. per min., and for heads of from 35 to 193 ft. Single stage and series pumps are used, some with closed and others with open impellers. The leaflet is copiously illustrated, and will doubtless be of interest to engineers confronted by similar pumping problems.

Removable Pan System for Floors.

Blaw-Knox Bulletin No. 210 is devoted to an elaboration of the Blaw-Knox Company's removable pan system for ribbed slab floors and it contains much data of interest to

contractors, engineers, building owners and architects. The cover page carries a large picture showing this system as applied in the construction of the Patrick Henry School at Cleveland, Ohio. Within are other illustrations and details of installations, besides detailed drawings of parts so that the reader may fully understand. The descriptive material is complete and gives figures showing economy which may be attained. Copies may be obtained from the company, Pittsburgh, Pa.

Self-Feeding Wagon Loaders.

Self-feeding wagon loaders manufactured by the N. P. Nelson Iron Works, Inc., 212 Fortieth St., Brooklyn, N. Y., are described in the company's Bulletin No. 222, which says that "the Nelson type I and J are equipped with powerful spiral feeders which dig and load more than one cubic yard of material in less than one minute, for less than one cent of power cost, automatically." It is also stated that the patented automatic releasing device prevents the bending of conveyor flight plates and saves the conveyor chain from breaking apart if suddenly overloaded. There are several pictures showing the machines in operation, besides other illustrations displaying details of their working parts. This company is represented in the South by Edgar Alexander, of Atlanta, Ga.

Road and Street Building Machinery.

A general catalog of road and street building machinery manufactured by the American Road Machinery Company, Inc., Kennett Square, Pa., has been issued. "Everything for the road maker" is the statement carried on the cover, as the company manufactures a complete line of products. It has been in business for 46 years and it states that the constant aim and purpose has been to furnish road building machinery of the highest quality at the most reasonable prices. The book is finely printed and illustrated with full descriptions. Some of the pictures show machines actually at work on different road jobs. The catalog will be found to be useful to contractors and others interested in road improvements of every kind. The Good Roads Machinery Company, Inc., are the general sales agents.

Road Work Pictured and Described.

"Results on Road Jobs" is a completely illustrated booklet of 32 large pages issued by the Barber-Greene Company, manufacturers of standardized material handling machines, Aurora, Illinois, and it is a rather unique example of business literature because it shows the actual application and use of the company's machines on various typical road jobs throughout the country. A contractor, commenting upon it, said that it was extremely valuable to men in his line of work. It shows the various methods of building roads and while it is not in any sense a book on how to build highways, it nevertheless possesses very definite worth. The book is issued once a year. Country road work and work in cities are illustrated in detail, part of the book showing the operation of the loaders and part the use of the conveyors. All of the pictures are of a superior character and they are accompanied by adequate descriptions.

Accurate Testing of Fuel.

Bulletin 30 of the Pittsburgh Testing Laboratory, inspecting engineers and chemists, Pittsburgh, Pa., relates to the value of the accurate testing of fuel. The Laboratory

makes a specialty of cargo sampling and testing and is also prepared to furnish containers for taking samples of gas. A page of small pictures shows the proper method of preparing a sample of coal or coke by hand and it is very interesting and instructive.

General Utility Derrick That is Portable.

The Barrett portable derrick, which is for general utility in handling loads up to 2000 pounds, is described by the manufacturers, the Barrett-Cravens Co., 1328 West Monroe St., Chicago, as being simple, sturdy, indestructible, quick to install and easy to operate, besides being portable. Several pictures in an attractive folder issued by the company show different applications of the derrick which is equipped with two handles so that the operator can push with one hand and pull with the other this making for fast and easy operation.

About Patents and Trade Marks.

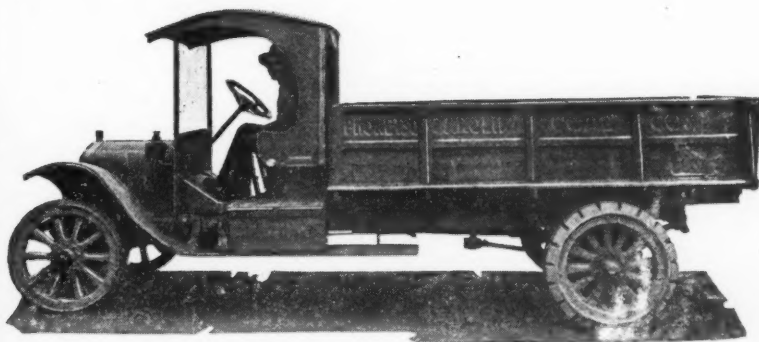
Richards & Geier, patent and trade mark attorneys, 277 Broadway, New York, have issued two books of wide interest, one of them being called "Patents: Law and Practice," and the other "Trade Marks, Trade Names, Unfair Competition." The first considers both United States and foreign patents and gives digests of law and practice not only in this country but abroad. There are also schedules of charges here and in foreign countries. The second book discusses trade marks in general, trade marks in the United States, registration of trade marks, state registrations and United States registrations. Under the general caption of "Trade Marks in Foreign Countries" are considered registration, piracy of trade marks, with schedules of charges, etc. The book on patents has gone into a second edition and that on trade marks into a third edition. Copies will be sent gratis by the firm to anyone who is interested.

Advance of the Single Roll Crusher.

The McLanahan-Stone Machine Co., Hollidaysburg, Pa., have issued a folder entitled "The Evolution of the Single Roll Crusher" in which they say: "Soon after we began to furnish machinery for washing and preparing Florida phosphate rock we realized the necessity for a simple crusher which would reduce pieces too large for our double log washers. So we started to manufacture a single roll crusher for this purpose. We furnished the first one in 1894. Up to this time the phosphate mines had been using jaw crushers for this purpose. So successful was this crusher that we installed many others for crushing phosphate rock. A few years later we made our first solid frame crusher, still retaining a rigid breaking plate. We furnished a number for crushing friable ore and limestone. We made a much larger machine for the Blair Limestone Co., Martinsburg, W. Va. This is still in use. We then conceived a crusher with a swinging crushing plate and installed one of this type for making furnace flux at Steelton, Pa. This was one of our larger sizes and is still in use. The success of these crushers was such as to bring them to the notice of other manufacturers and today there are about half a dozen in the business." These crushers are now furnished also for brick and shale plants, limestone quarries, etc., besides for crushing bituminous coal for mechanical stokers.

(Continued on page 118.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



Says Kelly Kats reduce truck maintenance cost

One of the big items of expense in operating a truck is wear and tear on the truck itself. This expense can be greatly reduced by proper cushioning.

Concerning this subject, the Carolina Coal and Ice Co., of Ashville, N. C., in a recent letter, says:

"We have used Caterpillar tires on the rear wheels of our 2-ton White truck for over a year and believe that the low maintenance cost of this truck is largely due to the cushioning and traction of these tires."

Kelly Kats not only provide cushioning which keeps down maintenance cost but they also furnish traction which reduces operating cost and deliver mileage which cuts down tire cost.

There are no Caterpillar tires but Kelly Kats

KELLY-SPRINGFIELD TIRE COMPANY

250 West 57th Street, New York



KELLY KATS

THE TIRES WITH NINE LIVES



Steel Sheet Piling Catalog.

A new catalog entitled "Lackawanna Steel Sheet Piling" has been issued by the Bethlehem Steel Co., Bethlehem, Pa., and is styled Bulletin 110. This piling is made either arched-web, straight-web or bent-web. The publication takes the place of previous issues on steel sheet piling and the first page gives particulars about types, dimensions and weights of standard sections. The book also covers fabricated connections for the piling, special rolled corners, splices, pile pulling grips, taper piles, etc. There is much information in the bulletin about the use of steel sheet piling, including tables of dimensions of circular structures to be formed with it, besides tables of weights and lengths, etc.

Catalogue of Concrete Mixers.

The T. L. Smith Company, Milwaukee, Wis., have published Catalogue No. 405-C, which is devoted chiefly to the description and illustration of non-tilting type Smith concrete mixers. This book is prepared in a superior style with fine pictures of the different machines that are described. Complete information concerning them is given, including tables of detailed specifications. The cover is handsomely done in colors. Other publications of the company include a folder on the No. 375 half bag tilting mixers, besides Catalog No. 406 on tilting mixers, 409-D on paving mixers, 408-A on excavators and loaders, and 404-A on glass batch mixers. Any of the publications will be sent by the company on request.

Blue Print Machinery Catalog.

Catalog M-23 of the C. F. Pease Company, 813-821 North Franklin St., Chicago, Ill., covers comprehensively their line of automatic blue printing machinery as well as drafting supplies. The Peerless blue printing machines of this firm have a national reputation and they have been used largely during the last twelve years by many leading automobile and air plane builders, locomotive and car builders, shipyards, commercial blue printers, etc., as well as in federal state and municipal offices. They are also, it is remarked, in successful operation in over than 25 foreign countries. The Universal arc lamps as illustrated on Pages 4 and 29 especially deserve mention. They have been brought out during the past year and, it is stated, mark a decided advance in arc lamp construction for blue printing purposes. The sheet dryer on pages 36 to 38 is a result of years of experimentation and experience and has many valuable features.

Water Softener Bulletin.

The Graver Zeolite water softener which, it is stated, supplies water without hardness, is described and illustrated in Bulletin 509 of the Graver Corporation, East Chicago, Ind., where they manufacture not only water softening and purifying equipment, but steel tanks and general steel plate work. Zeolite, it is observed, is the geological name of a mineral that is a hydrated silicate of aluminum combined with an alkali or an alkaline metal or both, and as it is a characteristic of this mineral to exchange its base for another base, it is employed for water softening. This water softener is said to be indispensable for laundries, bleacheries, dye houses, paper mills, textile establishments, silk mills, woolen mills and cotton mills and its field of usefulness also includes tanneries, sugar refineries, ice plants, bottling works, chemical plants, gas and oil engines, institutional buildings, hotels and apartment houses.

Bulletin On Water Tube Boilers.

The "Oswego" internally fired water tube boilers, manufactured by the A. D. Granger Co., New York, N. Y., are fully described and illustrated in the firm's Bulletin No. 2, eighth edition. Tables giving dimensions, ratings and other data for both high pressure and low pressure boilers are included. These boilers have been used for the past thirty years in office buildings, public schools, apartment houses, factories, etc., by leading architects and consulting engineers throughout the United States. It is stated that they offer the solution of power plant installation in restricted space and their rectangular shape with smoke connection at the back gives an ideal condition for a simple layout.

Fine Hoisting Machinery Catalogue.

The O. K. Clutch & Machinery Co., Columbia, Pa., are building a new line of hoisting machinery, gasoline multiple cylinder, from three to fifty horsepower. These machines are built in single, double and three drum machines, reversible and non-reversible, and boom-swingers. In case a purchaser gets a single drum hoist and finds that a double drum is needed, all that is necessary is to buy the second drum complete, with side stands, etc., and bolt it to the single drum machine. The holes are drilled in the side stands and will fit the holes of the second drum; no machine work is necessary. The third drum can be added in the same manner. Full particulars with superior illustrations are given in Catalogue No. 20 issued by the manufacturers.

Bulletin on Waterproofing.

Karnak Bulletin No. 6 issued by Gardiner & Lewis, Inc., of Chicago and New York, gives valuable and interesting information with fine pictures about the Karnak waterproofing methods and materials, this including detailed directions for application. Many letters of appreciation from independent laboratories are reproduced. Among works on which these waterproofing methods were used and of which illustrations are displayed, are the reflecting pool at the Lincoln Memorial at Washington, D. C., the Main St. bridge at Elmira, N. Y., a railroad viaduct at East Orange, N. J., a high bridge at Scranton, Pa., a highway bridge at Fort Wayne, Ind., and others.

Book on Electric Hoists and Cranes.

The Link-Belt Company of Chicago and Philadelphia have issued a comprehensive and instructive book on electric hoists and overhead cranes. It is profusely illustrated with photographic reproductions showing actual installations of the company's electric hoist applications and also with line and wash drawings of the same. Practice and methods of different users of the products are fully described and shown. For instance, a sewer contractor in Maryland used a hoist for removing dirt, and at a ship-building plant in Texas a hoist was used for moving and placing timbers. These two cases indicate the wide range of activity covered. Copies of the book may be obtained from the company's offices in either city.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Has Bought a Plant in the West.

The B. F. Sturtevant Company, Incorporated, Hyde Park, Boston, Mass., has purchased the plant of the Wisconsin Engine Company, makers of Corliss pumping engines, at Corliss, Wis., this new acquisition covering nearly ten acres of land while the buildings have approximately 150,000 feet of floor space. A full manufacturing and engineering staff will be maintained and closer co-operation given to western customers. Shipping raw material east and the finished product west adds a good deal to the ultimate cost, because of the freight charges. The situation at Corliss therefore, will make a substantial reduction in these additional transportation costs. Corliss is on the main line of the St. Paul railway system and rail shipping facilities are ample. Besides, the lake port of Racine is only six miles eastward. Harry W. Page is general manager in entire charge of the plant at Corliss.

Plant to Manufacture Transformers.

It is announced that the plant of the Savage Arms Corporation at Sharon, Pa., recently acquired by the Westinghouse Electric & Manufacturing Co., is being remodeled and equipped for the manufacture of transformers and it is expected that it will begin operation next fall. The transformer division of the East Pittsburgh works of the Westinghouse company will be transferred to Sharon and 3000 persons, including a large number of girls and women, will be employed in the new plant, the acquisition of which was made necessary by increasing

business in transformers. C. H. Chapman, assistant works manager at East Pittsburgh, has been appointed works manager at Sharon, and M. L. Fawcett, general foreman of the transformer department has been made superintendent there. They are now directing the work of fitting up the new plant.

Change of Business Connection.

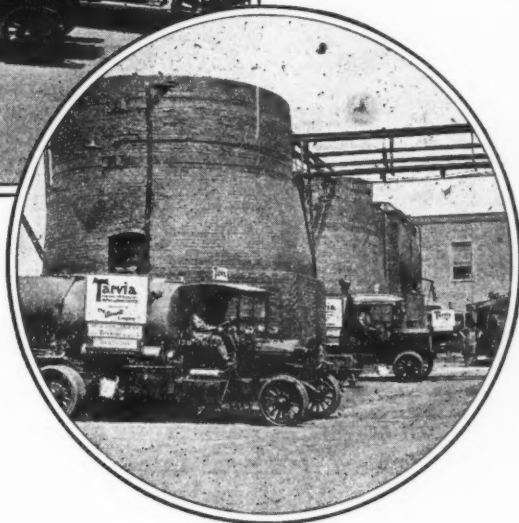
John L. Couturier, formerly assistant cashier and trust officer of the Whitney-Central Trust & Savings Bank, New Orleans, La., having acquired an interest in the business of Sutherlin, Barry & Co., Inc., investment bankers, 1101 Hibernia Bank Building, New Orleans, is now actively associated with them as vice-president and secretary.

Large Austrian Loan Offered.

An Austrian Government guaranteed Loan of \$25,000,000 of 7 per cent sinking fund gold bonds is being offered to investors by J. P. Morgan & Co., Kuhn, Loeb & Co., First National Bank, National City Co., Guaranty Company, Bankers Trust Co., Kidder, Peabody & Co., Lee, Higginson & Co., Harris, Forbes & Co., and Dillon, Read & Co., all of New York, and Alex. Brown & Sons, Robert Garrett & Sons and the Merchants National Bank, all of Baltimore, according to a formal announcement elsewhere in this issue. The bonds are dated June 1, 1923, and are due June 1, 1943, interest being payable June 1 and December 1. Details concerning the guarantee and other particulars appear in the announcement.



*Fleet of Tarvia
Motor Trucks at
the Chicago
Plant.*



“What Do You Mean by Tarvia Service?”

HUNDREDS of men interested in the building and maintenance of good roads have asked us this question. Here is the answer.

First of all, Tarvia Service means that we put at your disposal the skill of highly trained road engineers—men with years of experience in all types of road construction. Without obligation, these men will assist you in solving your road problems—construction, maintenance or repair.

The next phase of Tarvia Service—and a most important one—is the prompt dependable delivery which the strategic location of our branches assures. Moreover Tarvia is shipped

in the form most practical to your requirements—by our own fleet of tank cars, in barrels or by motor trucks.

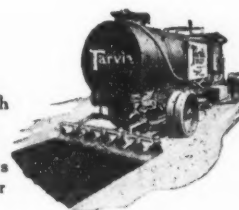
Where it is delivered by motor trucks, we follow a truck-dispatching schedule as punctual and dependable as that of the great trans-continental trains. These trucks are manned by trained experienced crews who lend their skilled cooperation in the application of the Tarvia.

In brief, Tarvia Service is a real aid to the road officials of any state, city, town or community where prompt, efficient road construction is the need. A line to our nearest branch office will start the wheels moving.

Tarvia
*For Road Construction
Repair and Maintenance*

The *Barrett* Company

New York	Chicago	Philadelphia	Boston
St. Louis	Cleveland	Cincinnati	Pittsburgh
Detroit	Kansas City	Birmingham	Dallas
Minneapolis	Salt Lake City	Bethlehem	Lebanon
Youngstown	Milwaukee	Toledo	Columbus
Baltimore	Syracuse	New Orleans	Rochester



THE BARRETT COMPANY, Limited

Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S.

A Vital Point for the Reader of this Paper

A B P STANDARD No. 1

"To consider FIRST the interests of the subscriber."

EVERY member of The A B P Inc., of which this paper is one, has subscribed to this and to *nine other* standards covering every department of publishing practice. The A B P label stands for all that is best in publishing; the things which make a business paper one of the essential working tools of the successful business or professional man.

In interpreting Standard No. 1 the constitution bars from membership papers of free circulation, publications which are owned directly or indirectly by an association or an advertiser; and in the words of the constitution itself, —member papers "must not be organs or mouthpieces of any house or combination of houses to further its or their special interest as against the joint interest of the trade or class."

This assures you of a paper without prejudice or bias; one which must be independent of any consideration other than the common welfare of its field.

Because such a paper must have a legitimate PAID circulation, its control is wholly in the hands of the subscribers. The subscribers determine whether the

paper shall live or die by giving or withholding their subscriptions.

This is not true of a paper with a circulation controlled by the ones who issue it; which goes to you whether or not it is needed or wanted. The obligation of such a paper necessarily is to its advertisers or whatever interest may be back of it.

The A B P type of paper *must* earn and deserve your approval, — you control its circulation, its life. It *must* render you adequate service; it *must* fight your just battles; it *must* deal fairly with every factor with due regard to the rights of other factors. Enlightened selfishness justifies the fullest support of such a publication.

Standard No. 1 is placed first because it IS first in our conception of publishing practice. Everything else is secondary to the main purpose of serving the subscriber with courage and unswerving fidelity.

THE ASSOCIATED BUSINESS PAPERS, INC.

JESSE H. NEAL, Executive Secretary

HEADQUARTERS:

220 WEST 42nd STREET

NEW YORK CITY

The MANUFACTURERS RECORD is a member of the A. B. P., Inc.

PROFITABLE PAPER MAKING POSSIBILITIES SOUTH

Many Southern localities have the bases of ample raw material, cheap power, favorable distributing facilities and other factors to guarantee economic production and distribution of "Kraft papers".

Is your community interested in establishing such an industry?

If so, we shall be glad to suggest architects or engineers.

Write us

OUR MACHINES NOW OPERATE IN

Orange, Texas.

Hartsville, S. C.

Bristol, Tenn.

Roanoke Rapids, N. C.

Kingsport, Tenn.

Moss Point, Miss.

Richmond, Va.

Big Island, Va.

Canton, N. C.

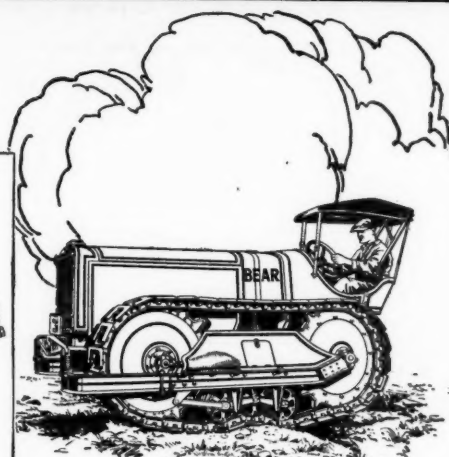
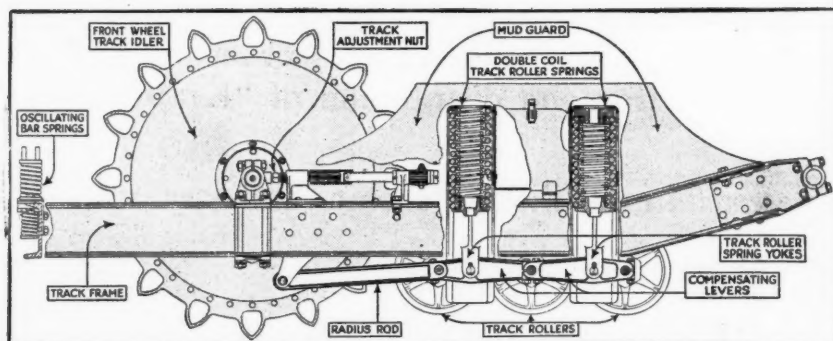
*Proven facts and details in
hand now ready for your study.*

THE PUSEY AND JONES COMPANY
WILMINGTON, DELAWARE

"Paper making machinery—for fifty years"

We build paper making machinery, centrifugal pumps, auto-claves, friction clutches, river steamers, tug boats and barges.

The Bear Tractor



Compensating Track Roller System

THE Bear Tractor is of the "crawler type", but aside from this broad classification similarity to all other tractors ceases. And in no particular is this dissimilarity more striking than its *track roller system*. For here is found a construction that truly allows the track to compensate for the irregular ground surfaces—a feature of great practical importance under actual working conditions as they vary not only from day to day in one kind of service, but as they vary in different kinds of services, such as road construction and maintenance, logging, farming, freighting and all other kinds of work where dependable and economical mobile power is wanted.

The Bear track literally *crawls*, hugging the ground throughout its full length; and it does this under pressure of practically the entire weight of the tractor, as over 95% of the tractor's weight is carried on the double coil springs—two on each side. This construction serves two vital purposes: First, on one hand it forces the track rollers *and* the track down into depressions, and on the other hand it permits them to rise over elevations; second, it affords what amounts to a

spring mounting which absorbs the shocks that otherwise would be constantly hammering the tractor throughout. Maximum traction is always maintained; and minimum shock is assured. The remarkable flexibility resulting from the *compensating track roller system* of the Bear, added to that resulting from the oscillation of the front wheels, gives the Bear a greater mobility than ever before obtained in a commercially made tractor. And it is adapted to a wider range of work.

Bear features include: Reserve Power—100% overload capacity for emergency. Weight—2 tons lighter than competing tractors. Flexibility—12-inch oscillation of front wheels. Compactness—6 feet turning radius. Lubrication—once-a-month oiling. Mechanical Efficiency—80% of the engine's power delivered to the drawbar. Track Roller System—rollers force track to grip ground throughout full length. Track—upkeep lowest on record. Track Adjuster—self-aligning. Drawbar—resilient; whiffletree hitch. Bearings—36 annular ball bearings. Control—automobile type. Seat—spring-cushioned; upholstered. Engine—heavy-duty; 70 h. p. maximum.

Every tractor user, dealer and distributor should send at once for copy of the catalog.

Distributors and dealers are invited to ask regarding open territory.

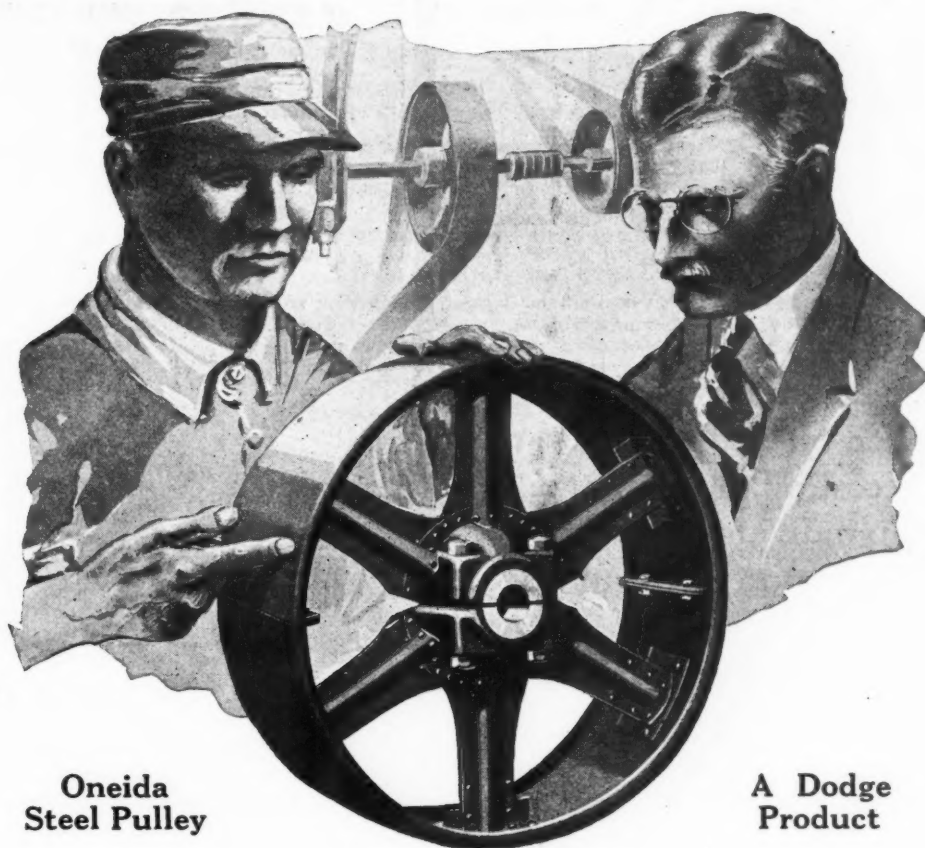
Franchises are being let rapidly

25-35 \$4250

BEAR TRACTORS INC. 5324 PARK PLACE NEW YORK CITY

The Tractor that Delivers its Power to the Drawbar

**"That grooveless oval crown saves us
a lot of power and wear on belts"**



**Oneida
Steel Pulley**

**A Dodge
Product**

Take the pulley with a grooved or angle crown and compare it with the Oneida by laying a belt on it. At the center where the tension is greatest the angle crown affords no contact at all. With the Oneida the belt hugs the face closely making it possible to run the belts loosely and consequently reduces bearing friction and strain on belts.

The Oneida is strong and light—there is no excess weight. This means less friction—power saved.

It will pay you to specify "Oneida" on your next pulley order. Your local dealer can make immediate delivery.

DODGE

POWER TRANSMITTING EQUIPMENT

DODGE MANUFACTURING CORPORATION

General Office: Mishawaka, Indiana.

Works: Mishawaka, Indiana, and Oneida, N. Y.

New York
Boston

Philadelphia
Newark

Cincinnati
Oneida

Chicago
Minneapolis

St. Louis
Houston

Atlanta
Pittsburgh

Seattle
San Francisco

GROUP LIFE INSURANCE

What it is:

Life Insurance that covers under one policy, and at low cost, all the employees of an individual, a firm or corporation without regard to age and without medical examination.

What it does:

It enables the employer to protect *every* employee. It establishes a community of interest. It increases mutual respect and good will.



The
PRUDENTIAL
INSURANCE COMPANY OF AMERICA

EDWARD D. DUFFIELD
President

HOME OFFICE: NEWARK
New Jersey

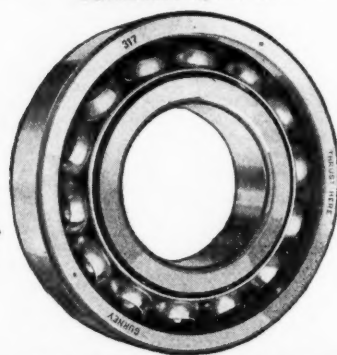
GURNEY BALL BEARINGS ARE BETTER

Their Greater Load Capacity (for their size) than other bearings makes Gurneys best for replacement work.

The new pressed steel separator, recently adopted after years of trial, adds the final touch that places Gurney Bearings in the foremost position.

Let our Engineers assist you.

GURNEY BALL BEARING CO.
Jamestown, N. Y.



GURNEY BALL BEARINGS

CRUSHED LIMESTONE Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 4000 tons daily.

Quarries:

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.

W. W. BOXLEY & COMPANY

First National Bank Building, - ROANOKE, VA.

We Buy

Correspondence Solicited

CALDWELL & CO., NASHVILLE, TENN.

Detroit New York Cincinnati Chicago Chattanooga St. Louis Knoxville

**SOUTHERN
MUNICIPAL
BONDS**



6%—No Investor ever refused his money when he offered his Certificate to be cashed in. 22 Years in business without loss to any Investor.

G. A. MERCER COMPANY
Investment Bankers Savannah, Ga.

Ask for Booklet I B M

\$25,000,000

Austrian Government Guaranteed Loan 1923-1943

Seven Per Cent. Sinking Fund Gold Bonds

Dated June 1, 1923

Interest payable June 1 and December 1

Due June 1, 1943

Subject to redemption at par as a whole on any interest date after June 1, 1934, and in part through the Sinking Fund in any year. Coupon Bonds in denominations of \$1,000, \$500, and \$100.

Principal and interest payable in New York at the office of J. P. Morgan & Co., in United States gold coin of the present standard of weight and fineness, without deduction for any Austrian taxes, present or future.

Guaranteed severally as to principal, interest and redemption payments, in the proportion stated below, by the Governments of Great Britain, France, Czecho-Slovakia, Italy, Belgium, Sweden, Denmark and Holland.

Before each issue forming part of the Loan is made, every guarantor State will deposit with the National Bank of Switzerland in the name of the Trustees its own bonds of like tenor and currency to cover the amount of its guaranty in respect of such issue. Thus, dollar bonds of the several States by which the service of this issue is guaranteed will be held by the National Bank of Switzerland in the name of the Trustees.

These Bonds are part of an International Loan to be issued in Great Britain, France, Italy, Switzerland, Belgium, Holland, Sweden, Austria and the United States of America in bonds of various denominations and in various currencies for amounts sufficient to yield in the aggregate an effective sum equivalent to 630,000,000 Austrian Gold Crowns, or about \$126,000,000.

The Bonds are to be secured by a first charge on the gross receipts of the Austrian customs and tobacco monopoly, which, for the first five months of 1923, have been at the rate of 150,000,000 Austrian Gold Crowns (about \$30,000,000) per annum, whereas interest charges and sinking fund sufficient to amortize the Loan by maturity will not exceed 67,000,000 Austrian Gold Crowns (about \$13,600,000) per annum.

The Austrian Government covenants to pay during the life of the Loan a fixed annual sum which, after deducting the annual interest on the Bonds at the time outstanding, is to be sufficient to redeem the entire Loan in annual installments by maturity. The quota available for amortization of the American issue, increasing from about \$600,000 in the first year to about \$2,200,000 in the last year, will be used in the redemption of Bonds of the American issue by lot at 100% and accrued interest, or, if the Austrian Government should so elect, in the purchase of Bonds in the market, if obtainable at less than 100% and accrued interest.

GUARANTIES

Of the total authorized Loan, bonds to the amount required to yield an effective sum equivalent to not more than 585,000,000 Austrian Gold Crowns (of which the present issue of guaranteed dollar bonds forms part) are guaranteed as to principal, interest and redemption payments by the undermentioned States to the extent in each case of the proportion stated:

Great Britain	to the extent of 24½%	Belgium	to the extent of 2%
France	" " " " 24½%	Sweden	" " " " 2%
Czecho-Slovakia	" " " " 24½%	Denmark	" " " " 1%
Italy	" " " " 20½%	Holland	" " " " 1%
Total		100%	

In addition to the sum of 585,000,000 Austrian Gold Crowns thus obtained, a further amount of upwards of 45,000,000 Austrian Gold Crowns will be made available through advances to be made by the Swiss and Spanish Governments as part of the authorized total of this Loan. These amounts together are now estimated to be sufficient for the requirements of the Austrian Government. The advances above described will rank equally on the pledged revenues, but will not have the government guaranties.

WE OFFER THE ABOVE BONDS, SUBJECT TO PRIOR SALE, AT 90% AND ACCRUED INTEREST, TO YIELD OVER 8 PER CENT.

All orders will be received subject to the issue and delivery to us of the Bonds as planned, and to the approval by our counsel of their form and execution. The right is reserved to reject any and all applications, and also, in any event, to award a smaller amount than applied for.

Amounts due on allotments will be payable at the office of J. P. Morgan & Co. in New York funds to their order, on or about June 26, 1923. Trust Receipts will be delivered pending the preparation of the definite Bonds.

Application will be made to list these Bonds on the New York Stock Exchange.

Complete descriptive circular may be had on application to the undersigned

J. P. Morgan & Co.
First National Bank, New York.
Guaranty Company of New York
Kidder, Peabody & Co.
Harris, Forbes & Co.
Alex. Brown & Sons

Kuhn, Loeb & Co.
The National City Company
Bankers Trust Company, New York.
Lee, Higginson & Co.
Dillon, Read & Co.
Robert Garrett & Sons

Merchants National Bank

June 11, 1923.

As all of the above Bonds have been sold, this advertisement appears only as a matter of record.



A Personal Travel Service—

OUR Travel Department is organized to give complete information and service on trips and tours by rail or water to all parts of the world. We prepare itineraries, secure transportation, and hotel reservations; assist in securing passports and visas. All details are arranged with a view of making your trip as pleasant and successful as possible.

Consult us in regard to the next trip or tour you contemplate. Draw from our fund of experience and information. Learn from us the more intimate details of the trip you contemplate and we will make your plans accordingly.

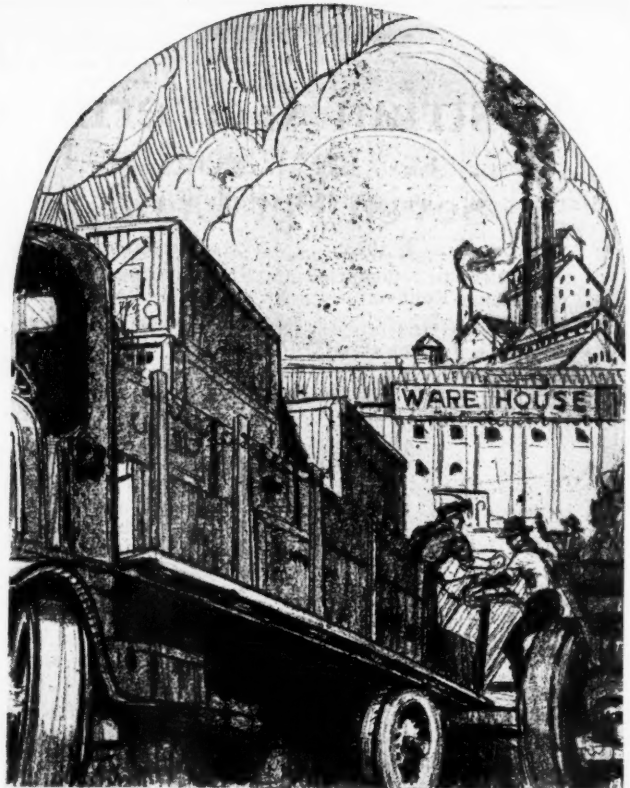
Or address us for suggestions as to what tours are especially seasonable and interesting. This service will cost you nothing, and will entail no obligation on your part.

Travel Department

THE FIFTH-THIRD
NATIONAL BANK OF CINCINNATI

14-18 W. Fourth St.

413-415 Vine St.



Insure from warehouse to warehouse

A TRANSPORTATION Policy with the North America will insure your goods from warehouse to warehouse. It will insure your shipments beyond the railroad's usual liability. It will insure them while on trucks, motor vans, docks, ferries and public platforms. It will insure *all* the way to destination.

For one hundred and thirty-one years this company has settled all claims promptly. The stability of resources, experience and quick adjustments is back of every North America Transportation Policy.

*Ask a North America agent
or write to Department 4.*

Insurance Company of North America

Third and Walnut Streets
Philadelphia

"The Oldest American Fire and Marine Insurance Company"
Founded 1792



Investment Bankers

are offered

Power and Light Securities

issued by companies with long records of substantial earnings.

We extend the facilities of our organization to those desiring detailed information or reports on any of the companies with which we are identified.

Electric Bond and Share Company

(Paid-up Capital and Surplus, \$42,000,000)

71 Broadway

New York

DOES YOUR BUSINESS NEED LARGER BANKING FACILITIES?

It is the purpose of this bank to cooperate with progressive firms who need modern banking facilities.

We are glad to correspond with prospective clients concerning their accounts.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

Pratt Street and Market Place, Baltimore, Md.

Capital and Surplus \$900,000.00

Member Federal Reserve System

We Buy Bonds

and invite inquiries from municipalities and contractors
We deal in city, county, district, school, road, lighting, water works and other municipal issues.

A. C. ALLYN & CO.

71 W. Monroe St., Chicago Ill.

NEW YORK MILWAUKEE MINNEAPOLIS BOSTON

MARYLAND TRUST COMPANY

BALTIMORE

Transacts a General Trust and Banking Business

Correspondence and interviews invited

CAPITAL, \$1,000,000

We Buy Bonds

City, County, School and Road, from
Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

MARINE BANK & TRUST COMPANY

New Orleans, Louisiana

Capital and Surplus - \$2,300,000.00

General Banking - Domestic and Foreign

Correspondence Invited



THE HOUSE OF SERVICE

HAMMERMILL LETTER HEADS

For Bank, Mill, Mine, Factory and Commercial House

8 1/2 x 11—Full 20 lb. Weight

1000—\$5.35	5000—\$16.75
2000—8.70	10000—28.50

Shipped 48 Hours After Receipt of Order
Charges prepaid to your railroad station
Samples on request

LAREW PRINTING CO., Knoxville, Tenn.

A. T. BELL & CO.

TOLEDO, OHIO

CHICAGO, ILL.

SECOND NAT. BANK BLDG.

105 SOUTH LA SALLE ST.

COUNTY
SCHOOL

MUNICIPAL
BONDS

CITY
DISTRICT

CORRESPONDENCE INVITED FROM OFFICIALS & CONTRACTORS

WE BUY MUNICIPAL BONDS

We are interested in the purchase of
Southern Municipals including road,
school, county, drainage and levee bonds.

M. W. ELKINS & CO.

Southern Trust Bldg.

Little Rock, Ark.

NOTICE TO CONTRACTORS

We want to buy bonds issued by cities, towns
counties, school, road or drainage districts that you
may be able to take in exchange for work. Address
us at our nearest office.

W. L. SLAYTON & CO.

New Orleans, La.

Toledo, Ohio

Tampa, Fla.

Chicago, Ill.

Glasgow, Mont.

YOUNG & SELDEN COMPANY

MANUFACTURING

Bank and Commercial Stationers

BALTIMORE, MD.

F. WM. KRAFT

LAWYER

Specialist in Examination of

Municipal and Corporation Bonds

and Preparation of Proceedings relating thereto

517-520 Harris Trust Bldg.
11 West Monroe St.

CHICAGO, ILL.

WASHINGTON AND CHICAGO OFFICES

TRADEMARKS PATENTS COPYRIGHTS

LAWYERS ALBERT J. FIHE ENGINEERS

Former Member Examining Corps, U. S. Patent Office
111 WEST MONROE STREET
CHICAGO

Located in the World's Greatest Industrial Center

TODD & McCOLLOUGH

Members of

AMERICAN SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS

Auditing, Cost and Accounting Systems,
and Federal Tax Service.

No. 323 South Tryon St.

Charlotte, N. C.

Baltimore Saves \$21,000.00 THROUGH PROPOSAL ADVERTISING In The Manufacturers Record

JOHN J. HANSON,
SUPERINTENDENT



SUPERINTENDENT OF LAMPS AND LIGHTING
209 CITY HALL

May 31st, 1923.

Mr. Isaac S. Field,
Secretary, Manufacturers Record Publishing Co.,
Water & Commerce Streets,
Baltimore, Md.

My dear Mr. Field:

I wish to inform you that in December, 1920, this department advertised for bids for cast iron lamp posts in your Manufacturers Record and Daily Bulletin, and through these agencies we received inquiry for specifications and blue prints from the Talladega Foundry & Machine Co., Talladega, Alabama, under date of December 21st, 1920.

Upon the opening of bids it was found that the above Company was the lowest bidder to the extent of \$4,300 on this contract.

Since the above transaction this department has been furnished with further supplies of lamp posts, also sign frames and brackets, at much lower prices than those furnished by the firms that this department has been in touch with in past years, and I feel that the saving to this department, approximating \$21,000, on the various contracts with the Talladega Foundry & Machine Co., was due entirely to our advertisement placed in your publications.

Yours very truly,

JJH/mbd

John J. Hanson
Superintendent of Lamps and Lighting.

PROPOSALS

BOND ISSUES
BUILDINGS
PAVING
GOOD ROADS

Bids close June 25, 1923.

SEALED PROPOSALS will be received by the U. S. Veterans' Bureau, Arlington Building, Washington, D. C., until noon, June 25th, 1923, and then and there publicly opened in room No. 744 for the construction, complete of an Occupational Therapy Building at the U. S. Veterans' Hospital No. 42, Perryville, Maryland. This work will include hollow tile and stucco walls, interior plaster, interior and exterior painting, excavating and concrete foundations, slate roof, and all inside plumbing, heating and electric installations, all as shown on drawings, and as described in specifications. Drawings and specifications may be obtained only upon application to the U. S. Veterans' Bureau, Maintenance and Repair Sub-Division, Room No. 790, Arlington Building, Washington, D. C. Deposit with application of a certified check or postal money order for \$10.00, payable to the Treasurer of the United States, is required as security for the safe return of drawings and specifications within ten days from date of opening proposals. Drawings and specifications will be available (for inspection only) at the U. S. Veterans' Hospital No. 42, Perryville, Maryland. Frank T. Hines, Director, June 2, 1923.

Bids close June 29, 1923.

PROPOSALS FOR iron and steel, steel and bronze rope, special bronze, sheet copper, iron or steel pipe, dynamite, detonators, manila and cotton rope, lamp cord, steel springs, guide bars, bronze (springs, strips, bars, bolts, and straps), valves, unions, glass, pressure switch, air separators, elevator switches and gears, milk bottles and caps, hose, pumps, gasoline meters, hydrants, ranges, switch locks, hacksaw blades, waste baskets, shovels, wrenches, jacks, cable clips, ladders, mop handles, oars, screening, cans, water coolers, brushes, nails, bolts, nuts, screws, grommets, tacks, files, ship felt, oakum, linoleum, tires, calcium carbide, asphaltum, lye, solder, mastic flooring and flux, alumina sulphate, fertilizer, caustic soda, linseed oil, paints and varnishes, switch oil, celluloid card cases, paper napkins, paper and cloth towels, cotton sheets, pillow cases, muscage, soap, paper, level books, index cards, and emery cloth. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock a. m., June 29, 1923, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1534) may be obtained from this office or the offices of the assistant Purchasing Agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer Offices in the principal cities throughout the United States. A. L. FLINT, General Purchasing Officer.

Bids close July 5, 1923.

PROPOSALS FOR cup greases, lubricant (gear, chain and wire-rope), and cotton waste.—Sealed proposals will be received at the Office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock a. m., July 5, 1923, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1535) may be obtained from this Office or the offices of the assistant purchasing agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer offices in the principal cities throughout the United States.—A. L. Flint, General Purchasing Officer.

Bids close June 15, 1923.

PROPOSALS FOR FURNISHING MARINE BOILERS—Office of 3rd Mississippi River District, P. O. Box 404, Vicksburg, Miss. Proposals will be received here until noon, June 15, 1923, and then publicly opened, for furnishing eight marine boilers. Information on application.

RATE: 35 cents per line per insertion.
PUBLICATION DAY: Thursday.
FORMS CLOSE 4 P. M., Monday.
DAY LETTER: When too late to send copy by mail to reach us by 4 P. M. Monday, forward by day letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:
Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest. The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements. The same rate applies—35 cents per line per insertion.

Bids close July 3, 1923.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 5, 1923. **SEALED PROPOSALS** will be opened in this office at 3 p. m., July 3, 1923 for remodeling and extension of the United States Post Office and Court House at Frankfort, Ky. Drawings and specifications may be obtained from the Custodian at Frankfort, Ky., or at this office in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close June 22, 1923.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 6, 1923. **SEALED PROPOSALS** will be opened in this office at 3 p. m. June 22, 1923, for furnishing and installing two portable type horizontal smokeless firebox, steel heating boilers, etc., at the U. S. Post Office and Court House, Chattanooga, Tenn., in accordance with specification and drawings, copies of which may be had at this office, or at the office of the Custodian, Chattanooga, Tenn., in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close June 25, 1923.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 9, 1923. **SEALED PROPOSALS** will be received at this office until 2 p. m., June 25, 1923, and then opened, for concrete sidewalks at the Public Health Service Hospital, Numbered 42, Perryville, Md., in accordance with drawing and specifications, copies of which may be obtained from the Superintendent of Construction, U. S. P. H. S. Hospital, Perryville, Md., or from this office, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close June 20, 1923.

DEPARTMENT OF THE INTERIOR, Washington, June 2, 1923.—Sealed proposals will be received in this Department until 2 o'clock p. m., Wednesday, June 20, 1923, for furnishing 11,850 sets, more or less, of rollers and hangers for use in mounting the General Land Office map of the United States for 1923. Form of proposal, including specifications for the work, will be supplied on application. All proposals must be securely enveloped, marked "Proposals for map rollers and hangers", and be addressed to the Secretary of the Interior, Washington D. C. The right is reserved to reject any and all bids, or to accept or reject any part thereof in the discretion of the Department. F. M. GOODWIN, Assistant Secretary.

Bids close July 5, 1923.

SEALED PROPOSALS will be received at the U. S. Engineer Office, 329 Custom House, New Orleans, La., until 9 a. m., July 5, 1923, and then opened for constructing and delivering two 20 inch Dredge Pumps. Further information on application.

Bids close June 19, 1923.

U. S. ENGINEER OFFICE, WILMINGTON, N. C. Sealed proposals will be received here until 12 o'clock noon June 19, 1923, and then opened for Dredging in Scuppernon River, North Carolina. Further information on application.

Bids close June 23, 1923.

UNITED STATES ENGINEERING OFFICE, Florence, Ala.—Sealed proposals will be received here until 11 a. m., June 23, 1923, and then opened, for furnishing and delivering 13 sets of sluice valves, operating mechanism for the same, riveted steel pipe, and other appurtenances for the sluice section of Wilson Dam. Further information on application.

Bids close June 26, 1923.

\$80,000 6% Bonds

Charleston, Miss.
Sealed proposals will be received by the Commissioners Ascalmore Drainage District No. 1, at the office of Richard Denman, Attorney, Charleston, Miss., until 10 A. M. June 26th, 1923, for \$80,000.00 six per cent. serial bonds, maturing 1925 to 1944. Certified check for five per cent of amount bid shall accompany each bid.

The right is reserved to reject any and all bids.

For further information apply to Richard Denman, Attorney, Charleston, Miss.

COMMISSIONERS ASCALMORE DRAINAGE DISTRICT No. 1
By R. D. Fedric, President.

Bids close June 27, 1923.

\$200,000 5% Road Bonds

CHESAPEAKE MAGISTERIAL DISTRICT, ELIZABETH CITY COUNTY, VIRGINIA.

The Board of Supervisors of Elizabeth City County will receive bids until 10:00 o'clock, a. m., Wednesday, June 27, 1923, for the purchase of Two Hundred Thousand (\$200,000.00) Dollars Chesapeake District, Elizabeth City County, Virginia, Road Bonds, bearing 5% interest, payable semi-annually in New York City; Fifty Thousand (\$50,000.00) Dollars of these Bonds are callable at any interest bearing period on notice; One Hundred and Fifty Thousand (\$150,000.00) Dollars payable thirty years after date. Each bidder is required to submit a certified check for Two Thousand (\$2,000.00) Dollars with his bid. The Board reserves the right to reject any or all bids. Bonds are secured by full faith and credit of the County of Elizabeth City, Virginia. For any information desired address the undersigned.

H. H. HOLT,
Clerk, Hampton, Virginia.

Bids close July 9, 1923.

\$30,000 5% Road Bonds

Oxford, N. C.

The Board of Commissioners of Granville County, N. C. offers for sale Thirty Thousand (\$30,000) Dollars of PUBLIC ROAD IMPROVEMENT BONDS in denominations of One Thousand Dollars each, bearing interest at the rate of five per cent per annum, interest payable semi-annually, said bonds to be due and payable on the fifteenth day of July, 1943, same to be coupon bonds. Sealed bids may be mailed, sent or delivered to C. G. Powell, Clerk to the Board of Commissioners of Granville County, Oxford, N. C. at any time prior to 12 M. Monday, July 9, 1923, at which time and in the Commissioners' Room in the Courthouse in Oxford, N. C. all sealed bids will be opened. The Board of Commissioners of Granville County reserves the right to reject any and all bids. No bid will be considered unless accompanied by certified check for \$500.00 and no bid will be considered if for less than par.

By order of the Board of Commissioners of Granville County this 4th day of June, 1923.

The Board of Commissioners of Granville County, By J. ENNIS DAVIS, Chairman.

Attest:
C. G. POWELL,
Clerk to the Board of Commissioners of Granville County.

Bids Close July 9, 1923.

\$30,000 5% School Bonds

Oxford, N. C.

The Board of Commissioners of Granville County, N. C. offers for sale Thirty Thousand (\$30,000) Dollars of PUBLIC SCHOOL BONDS in denominations of One Thousand Dollars each, bearing interest at the rate of five per-cent per annum, interest payable semi-annually, said bonds to be serial bonds due and payable, one each year for thirty years beginning on the 15th day of July, 1924 with the last of said bonds due and payable on the 15th day of July, 1953, same to be coupon bonds. Sealed bids may be mailed, sent or delivered to C. G. Powell, Clerk to the Board of Commissioners of Granville County, Oxford, N. C. at any time prior to 12 M. Monday, July 9th, 1923, at which time and in the Commissioners' Room in the Court-House in Oxford, N. C. all sealed bids will be opened. The Board of Commissioners of Granville County reserves the right to reject any and all bids. No bids will be considered unless same is accompanied by certified check for Six Hundred Dollars and no bid will be considered if for less than par.

By order of the Board of Commissioners of Granville County this 4th day of June, 1923.

The Board of Commissioners of Granville County

By J. ENNIS DAVIS, Chairman.

Attest:

C. G. POWELL,
Clerk to the Board of Commissioners of Granville County.

Bids close July 11, 1923.

\$40,000 6% Road Bonds

BULLOCKS CREEK TOWNSHIP, YORK COUNTY, SOUTH CAROLINA.

York, S. C.

Bids are hereby requested on Forty Thousand (\$40,000) Dollars 10-20 six per cent semi-annual road improvement bonds of Bullocks Creek Township. Bonds may be either serial or coupon. Bidders requested to state whether bid is made on a serial or coupon bond. Every bid must be accompanied by a Five Hundred Dollar certified check as evidence of good faith. All such checks to be at once returned to unsuccessful bidders. The bonds will be dated July 15, 1923, with interest maturing January 15 and July 15. Bidder to state the desired denomination of bonds. Sealed bids for such bonds will be received at office of Supervisor of York County, South Carolina, at his office in York Court House, South Carolina, up to twelve o'clock noon Wednesday, July 11, 1923. The right is reserved to reject any and all bids.

HUGH G. BROWN,
Supervisor of York County.

Bids close July 9, 1923.

\$100,000 Road Bonds

Bids will be received until 12 o'clock noon, on July 9, 1923, by the Board of County Commissioners of Onslow County, North Carolina, for the purchase of \$100,000 road bonds of said County, of denomination of \$1000.00 each, dated August 1, 1923 and maturing \$10,000 on August 1 in each of the years 1924-1933 both inclusive, bearing interest at a rate to be named by the bidder not exceeding six (6) per cent in a multiple of one-quarter of one per cent. No bid will be considered if a legally acceptable bid of a lower rate of interest is received.

Said bonds are issued under a provision of a Special Act passed at the Regular Session of the Legislature of North Carolina, 1922, ratified the 5th day of March, 1923.

All bids must be accompanied by a certified check upon an Incorporated Bank or Trust Company, payable to the order of Treasurer of Onslow County, for three per cent of the bonds bid for, to secure the County against any loss resulting from the failure of the bidder to comply with the terms of his bid.

The bidder will furnish the printed bonds and legal opinion of the Bond Attorney, and pay the cost of all forms necessary in connection with the issuance of the bonds.

The right is reserved to reject any or all bids or to accept the bid deemed most advantageous to the County.

I. E. KETCHUM, Clerk.

Board of County Commissioners,
Jacksonville, North Carolina.

I. M. BAILEY,
County Attorney.

Bids close June 23, 1923.

\$33,000, 6% Drainage Bonds

Anderson, S. C.

The Drainage Commissioners of Generos-tee Creek Drainage District, situate in Anderson County, South Carolina, will receive bids for the purchase of \$33,000.00 of Bonds of Generos-tee Creek Drainage District. These Bonds were issued January 1, 1920, and mature at the end of twenty years. They bear interest at 6% payable semi-annually, January 1st and July 1st, and are of the denomination of \$500.00 each. By the statute law of South Carolina, such bonds are made a lien on the lands in the district next in priority to State and County taxes. Sealed bids will be opened at the offices of Bonham and Allen, Attorneys, at Anderson, S. C., at 11 o'clock the 23rd day of June, 1923. The right is reserved to reject any and all bids.

J. S. FOWLER,
D. W. CHAMBLEE,
R. C. McKINNIE,
Commissioners Generos-tee Creek
Drainage District.

May 17, 1923.

Bids close June 18, 1923.

Bridge

Rocky Mount, Va.

Sealed bids will be received by the Board of Supervisors of Franklin County at Rocky Mount, Va., on the 18th day of June, 1923, for the construction of a bridge across Snow Creek about 14 miles from the Town of Rocky Mount. Blue prints on file with the Clerk of Court at Rocky Mount, Va.

The Board reserves the right to reject any and all bids.

BOARD OF SUPERVISORS
FRANKLIN COUNTY
By T. W. CAIPEN, Clerk.

Bids close June 27, 1923.

Road and Bridge Construction

NORTH CAROLINA STATE HIGHWAY
CONSTRUCTION.

Raleigh, N. C.

Sealed bids for the construction of the following projects will be received by the North Carolina State Highway Commission at Raleigh, N. C., until 10 a. m. on the 27th day of June, 1923, when they will be opened and read:

Hard surface (Concrete or Asphaltic Paving Projects) including grading, reinforced concrete or cast iron pipe, structures, etc.

Project No.	County	Length (Miles)
151-B	Hyde	4.4
180, 230, and 293	Wilson-Pitt-Greene	20.5
213	Craven	10.4
295	Wilson	8.6
438	Harnett	3.8
506-B	Alamance	0.3
672	Rowan	3.5
837-B	Henderson	5.8

Topsoil, Sand Clay, Gravel, or Grading projects, including grading, drainage pipe, structures, etc.

141	Halifax	18.7
146	Hertford-Bertie	6.4
168	Northampton	16.8
464	Person	11.6
668-B	Anson	3.8
702-B	Allegany	6.4
750-B	Stokes	8.6
812	Burke	4.9
836	Henderson	10.0
Forestry Road	McDowell	19.0

MACADAM PROJECTS

Penetration or Water Bound Macadam Projects, including drainage pipe, structures, etc.

507	Alamance	4.0
541	Guilford	4.3
556	Montgomery	3.5
802	Avery	5.7
930-A	Graham	2.9
961-A	Macon	8.3

STRUCTURE PROJECTS

302 Bladen 45-50 ft. deck girder spans and 1-350 ft. Steel Truss.

811-B Burke Overhead Crossing. Specifications, proposal forms, etc., may be obtained from the State Highway Commission at Raleigh, N. C.

Plans may be seen in the Raleigh office, or in the offices of the District Engineer. Bridge plans may be obtained from the State Highway Commission at Raleigh, N. C., upon PAYMENT OF Five (\$5.00) dollars per set.

The right is reserved to reject any or all bids.

By order of the North Carolina State Highway Commission.

Bids close June 19, 1923.

Macadam, Concrete and Gravel Roads

STATE OF MARYLAND
STATE ROADS COMMISSION
NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building five sections of State Highway, as follows:

Frederick Co. Cont. F-60. One section of State highway from Myersville toward Ellerton, for a distance of 1.0 mile. (Macadam Resurfacing).

Carroll Co. Cont. Cl. 40. One section of State highway from Gamber toward Finksburg for a distance of 1.0 mile. (Concrete).

Anne Arundel Co. Cont. AA-34. One section of State highway along the Mayo Road for a distance of 2.0 miles. (Gravel).

Charles Co. Cont. Ch-27. One section of State Highway between Marbury and Doncaster for a distance of 2.0 miles. (Gravel).

Queen Annes Co. Cont. Q-26. One section of State Highway from Millington toward Sudlersville for a distance of 2.0 miles. (Concrete).

will be received by the State Roads Commission, at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M on the 19th day of June, 1923, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 28th day of May, 1923.

JOHN H. MACKALL,

L. H. STEUART,
Secretary.

Bids close July 2, 1923.

Road Improvement

Fayetteville, West Virginia,

May 15th, 1923.

Sealed proposals will be received at the Office of the Clerk of the County Court of Fayette County, West Virginia, at Fayetteville, West Virginia, until 2 o'clock, P. M., Monday, July 2nd, 1923, for the grading, draining and paving of the following roads in Fayetteville District of Fayette County, West Virginia.

1st: Mt. Hope to Pax to the Raleigh County Line, approximately 10 miles.

2nd: Oak Hill to Country Club by way of Summerlee, approximately 4 miles.

3rd: Fayetteville to Gatewood to Cunnard, approximately 10 miles, and for grading and draining.

4th: Country Club at Lochgelly to Wriston.

Bids will be received on the following types of construction:

9 ft. Concrete local stone shoulders (Local and limestone).

9 ft. Local stone base with limestone top and chips—local stone shoulders.

9 ft. Local stone base and top and chips—local stone shoulders.

9 ft. Local stone base and top with limestone chips—local stone shoulders.

9 ft. Local stone base 2-inch limestone binder—1½-inch rock asphalt—local stone shoulders.

Bids must be made on the approved forms contained in the Book of Specifications provided by the State Road Commission of West Virginia.

Information can be obtained upon application to H. R. Anderson, Road Engineer, Fayetteville, West Virginia.

A certified check for five (5%) per cent of the proposal made payable to the order of the Sheriff of Fayette County must be filed with the bids.

The County Court reserves the right to reject any and all bids.

H. R. ANDERSON,
Road Engineer.

By Order of:

The County Court of Fayette County,
West Virginia.

ELI J. TAYLOR, President.

B. E. CLAYPOOL, Commissioner.

S. J. JASPER, Commissioner.

Attest:

THOS. BOONE, Clerk.

Bids close June 30, 1923.

Street Paving

Selma, Ala.
Sealed bids will be received by the undersigned until noon, Saturday, June 30, 1923, for the paving of Church Street in Selma, Alabama, with asphalt, asphaltic concrete, concrete and brick. Project consists of about 15,500 square yards. Plans and specifications may be secured from the undersigned.

W. O. CRISMAN,
City Engineer.

Bids close June 12, 1923.

Street Paving, Sewer and Water Mains

Norwood, N. C.
Sealed bids will be received by the Town Council of Norwood, N. C., at 2 P. M., June 12th, 1923, for the construction of 11,000 square yards of pavement, 10,000 square yards of sidewalk, 11,000 lineal feet of combined curb and gutter, and 14,000 cubic yards of excavation.

At the same time, separate bids will also be received for the installation of 3250 lineal feet of water mains with the necessary valves, hydrants, etc., and for 3250 lineal feet of sanitary sewer mains with the necessary manholes, etc.

Cashier's check for One Thousand Dollars shall accompany all proposals on street improvements and a Cashier's check for Five Hundred Dollars shall accompany all proposals for sewer and water improvements.

Specifications can be obtained from the office of the Mayor or from the Engineer.

S. J. LENTZ, Mayor.
HARWOOD BEEBE, Engineer,
Spartanburg, S. C.

Bids close June 29, 1923.

Gravel Road

Sumner, Miss.
Sealed proposals will be received by the Highway Commissioners, Webb-Charleston Highway, at the office of the Clerk of the Board of Supervisors in the Town of Sumner, Tallahatchie County, Mississippi, until 10 o'clock A. M., the 29th day of June 1923, for furnishing gravel and the grading and work necessary for the construction of a gravel road between Webb and Charleston, which will include the following approximate quantities of material and work:

33,400 tons road gravel.
320 cubic yards concrete in culverts.
10,000 pounds reinforcement steel.
192,000 cubic yards grading (embankment).
Hauling gravel as follows:
11,000 tons 0-1 mile haul.
15,000 tons 1-2 mile haul.
9,200 tons 2-3 mile haul.
8,500 tons 3-4 mile haul.
5,300 tons 4-5 mile haul.

Form of proposal, instructions to bidders, approximate quantities, bidding blanks, map of alignment, plans and specifications and contract may be seen at the office of the Clerk of the Board of Supervisors, or copies may be secured from H. L. French, Engineer, Sumner, Miss., at the price of three dollars, which will be returned on return of plans and specifications to bona fide bidders on the work.

Each bid must be accompanied by a certified check in the sum of five per cent of the amount bid, made payable to the Commissioners, and certified by a local bank.

Bids received after time set for opening same will not be considered.

The commissioners reserve the right to reject any and all bids.

D. S. HENDERSON,
Clerk.

Bids close July 3, 1923.

Water Works

Madisonville, Tenn.
Bids are invited until noon, of July 3, 1923, on furnishing all materials, machinery, appliances and labor, and building a municipal Water Works system for the Town of Madisonville, Tennessee.

The work will include:—

A small concrete dam, and an embankment.

A concrete and brick coagulation basin, combined with a concrete and brick pump and filter house.

Complete filter equipment for a single unit.

Four centrifugal pumps, two electric motors (automatic control) two gasoline engines, with all piping, wiring, etc.

A complete distribution system, with 6-inch, 4-inch and 2-inch mains, with valves and hydrants.

A 75,000 gallon hemispherical bottom steel tank, with tower, total height 120 feet.
Each bidder will be required to file with his bid, a certified check, cashier's check or bidders bond, in the sum of 5% of the face of his bid.

This check, or bond, will become a forfeit, to the Town of Madisonville, Tenn., if contract is not entered upon and bond executed within ten days of the date of award.

The successful bidder will be required to execute an indemnity bond, with some satisfactory guaranty company, in the sum of one-third the face of his bid, as a safeguard of the satisfactory performance of the contract.

The right is reserved to let the contract as a whole, or in parts, as may seem desirable, and to reject any or all bids.

Detail plans and specifications may be examined at the office of the Mayor, or at that of the Engineers.

A copy of the plans and specifications will be mailed, upon receipt of a check of \$5.00, to the Mayor.

Plans and specifications will be sent only to parties engaged exclusively in the business of contracting.

The check will be returned, only in case that a bona fide bid has been made to the Mayor, before the above date, and if the plans and specifications are returned in good condition.

M. F. VALENTINE, Mayor,
Madisonville, Tennessee.
The Ambler Engineering Company,
610 Traveler's Building,
Richmond, Virginia.

Bids close June 26, 1923.

Drainage Work

Charleston, Miss.
Sealed bids will be received by Commissioners Ascalmore Drainage District No. 1 at the office of Richard Denman, Attorney, Charleston, Miss., until 10 A. M., June 26th, 1923, for excavation of canals and clearing channels.

Approximately 10 miles, 474,000 cubic yards dragline work.

Clearing channels as shown on plans.
Certified check for two (2) per cent of total amount shall accompany each bid. Bond required with contract, one hundred per cent.

Form of proposal, instructions to bidders, approximate quantities, bidding blanks, plans and specifications and contract may be seen at the office of the Attorney and at the office of the Engineer; or copies may be secured from the Engineer at the price of Five Dollars which will be returned, on return of plans, to bona fide bidders on the work.

The right is reserved to reject any and all bids.

For further information apply to H. L. French, Engineer, Sumner, Miss., or A. L. Dabney, Consulting Engineer, Memphis, Tenn.

COMMISSIONERS ASCALMORE
DRAINAGE DISTRICT No. 1
By R. D. Fedric, President.

Bids Close July 12, 1923.

Drainage System

Fowl River, Ala.
Sealed bids for constructing the drainage system of Fowl River Drainage District No. 1, Fowl River, Ala., will be received by the Secretary, W. J. Durand, Box 945, Mobile, Ala., until the end of the day July 12, 1923.

The drainage system contemplates 69,016 cubic yards earth excavation, and building small bridges aggregating approximately 33,400 feet B. M. bridge timbers, together with the necessary clearing of approximately 11½ acres right of way; all in accordance with plans and specifications on file in the office of the Probate Court of Mobile County, Alabama, and with the Board of Drainage Commissioners.

Contract period for construction of drainage system contemplated to be not more than six months from date of signing the contract, which the Board of Drainage Commissioners will be ready to do immediately following the consummation of bond sale, preparations for which are under way now. Successful bidder or bidders will be required by law to furnish bond equal to 25 percent of contract price. The right to reject any or all bids is reserved.

For further information, address
W. J. DURAND, Secy.
Board of Drainage Commissioners
Box 945, Mobile, Alabama

Bids close June 25, 1923.

Paving and Sewers

Thomasville, Ga.
Sealed proposals will be received by the Mayor and the Council of the City of Thomasville, at the City Hall, Thomasville, Georgia, until 8 o'clock P. M. (Eastern time) June 25th, 1923 for furnishing materials and construction of approximately:

Contract "A":—
17,304 lin. feet Concrete curb and gutter.
1,364 lin. feet granite curb.
10,919 sq. yds. sidewalk paving.
1,395 lin. feet 18-inch storm sewer.
380 lin. feet 24-inch storm sewer.
28 catch basins complete.

Contract "B":—
13,891 sq. yds. street paving.
3,003 cu. yds. excavation.

In the event that only Contract "A" is let, the low bidder on contract "A" only will be considered. In the event that both contract "A" and contract "B" are let the low bidder on the combined contracts will be considered.

Plans and specifications are on file at the office of the City Clerk of Thomasville, and copies may be obtained from the Engineer on the payment of \$5.00 to cover cost of printing, etc.

Proposals shall be submitted on regular forms which accompany specifications, and must be accompanied by a certified check payable to the City of Thomasville, or a money deposit, for five per cent of the amount of the proposal.

The right is reserved to reject any and all bids.

H. J. McINTYRE, Mayor.
F. M. SMITH, JR., City Clerk.
C. Q. WRIGHT, Engineer
Albany, Ga.

Bids close July 2, 1923.

Public School Building

Vicksburg, Miss.
Sealed bids will be received at the office of the City Clerk of the City of Vicksburg, Mississippi, up to 4 o'clock P. M., July 2nd, 1923, for the construction and erection of a public school building in the City of Vicksburg. Plans and specifications can be secured from the City Clerk upon a deposit of \$25.00 for each set of plans and specifications, the said deposit of \$25.00 to be refunded when the same are returned to the City Clerk.

Certified check for 2% of the amount of bid must accompany same.

The Board reserves the right to reject any and all bids.

J. J. HAYES, Mayor.

Bids close July 30, 1923.

Notice of Competitive Award to Architects for Plans and Specifications for the Erection of a New Court House and Jail by the County of Wilson.

Wilson, N. C.
The submission by Architects of plans and specifications for the erection of a new Court House and Jail for the County of Wilson, North Carolina, is asked. The right to reject all plans and specifications submitted is hereby reserved. The right to accept part of one set of plans and specifications and part of another set of plans and specifications is also reserved, provided, the Architects submitting the same and the Board of Commissioners can agree as to the terms.

All plans and specifications must be accompanied by

1st: An estimate of the cost of construction.

2nd: The price at which the plans may be purchased outright.

3rd: The terms upon which if the plans are accepted, the submitting Architect will furnish the plans and specifications and supervise the construction of the building.

All submissions must be addressed to Henry B. Lane, Chairman of the Board of Commissioners, Wilson, N. C. The Board of Commissioners will meet in session on the 30th day of July, 1923, at 10 o'clock a. m. at the Court House in Wilson, N. C. for the purpose of receiving the submissions.

Any information desired may be obtained from W. J. Boykin, County Auditor, Wilson, N. C.

HENRY B. LANE, Chairman,
Board of County Commissioners,

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES

FLUOR SPAR PROPERTIES for sale or lease; also iron mines, coal property and oil leases. W. S. Lowery, Salem Star Route, Marion, Ky.

FOR SALE—Large kaolin, mica and talc mines in North Carolina. Also timber lands. James H. McCoy, Box 2056, Glen Rock Station, Asheville, N. C.

SAND AND GRAVEL DEPOSIT.

FOR SALE—Sand and Gravel deposit fifty-eight miles from Houston, Tex., fastest growing City South. Right on Southern Pacific Railway. Address 626 First National Bank, Houston, Texas.

TIMBER AND TIMBER LANDS

FOR SALE—Timber in tracts of five million to three hundred million feet, excellent talc properties. Two bargains in iron ore properties. One of 960 acres estimated to contain two million tons of 50% brown hematite ore, near railroad, can be cheaply mined, no tunneling. Can be bought at a sacrifice. One red fossil ore tract of 600 acres, 76 acres in fee, remainder in mineral interest and mining rights, located on a railroad with trackage. The seam of ore is 38 to 42 inches thick, carrying over six million tons of self fluxing ore, assaying 37 to 42% of metallic iron. Improvements including an 8x8 foot slope cost \$18,000.00. In order to close a large California estate, we can offer this property for \$18,000.00. Further information cheerfully given. H. L. Davis & Co., 109 East 7th Street, Chattanooga, Tennessee.

FOR OPERATION OR SPECULATION Best Timber investment in America. 1,100,000,000 ft. principally Cedar, in British Columbia, at Tide Water. If interested write M. F. SIMMONS, Grand Ave. Temple, Kansas City, Mo.

FOR SALE—20,000,000 feet Cypress timber on river in Florida, can be floated down river to railroad and mill site. Timber practically clean of defect and will average about 800 feet to tree. Write for price and terms S. F. King, 30th St. and Notter Ave., Jacksonville, Fla.

TIMBER—Both longleaf and shortleaf pine. Also hardwood in both large and small tracts. Advise your wants, can supply. W. L. English, Americus, Ga.

FARM AND TIMBER LAND

TIMBER & COLONIZATION TRACTS

Pine Timber
20,000 acres on railroad:
50,000,000 feet, \$12.50 acre, fee.
30,000 acres on railroad:
75,000,000 feet, \$12.00 acre, fee.
100,000 acres on railroad:
170,000,000 feet, \$8.00 acre, fee.
COLONIZATION LAND
5000 acres fruit and vegetable land, artesian wells, near brick and railroad, \$10.00 acre.
18,000 acres fruit and vegetable land on railroad, highway through centre, artesian wells, \$8.50 acre.
25,000 acres fine grazing land, \$5.50 acre. Maurer & Company, Realtors Orlando, Fla.

FARM, FRUIT, AND TRUCK LANDS

FLORIDA

FLORIDA—National statistics show that Florida is developing faster than any other State in the Union. It is indeed a land of great resources and opportunities—the playground of the Rich; the Paradise of the Poor. Babson, the great business statistician, says that Tampa is destined to be the greatest city in the Southeast. Come and be one of us. Send for Booklet, Largest Orange Tree in the world, and list of Homes, groves and farms. Tampa-West Coast Realty Co., (Inc.) Opposite Post Office, "Since before the War," Tampa, Fla.

FLORIDA

FLORIDA LAND FOR SALE

I have nearly 100,000 acres of the finest land in the state of Florida for a colonization development. This tract has a diversity of soil, suitable for fruits, general farming and trucking; fine rail transportation; near coast, in fact an ideal proposition. Price \$600,000 one-third cash, balance arranged to suit. J. F. Stebbins, Real Estate and Investments, P. O. Box 2945, Tampa, Fla.

SOUTH CAROLINA

SECLUSIVE BUILDING SITES perfectly drained on deep water. Large acreage in magnolias, live oaks, palmettoes, and Southern pines. Situated on three-mile expanse of water. Excellent health. Pure artesian water. Winter temperature 57.2 degrees. Roses and other flowers bloom in mid-winter. Five miles to railroad station. Excellent neighborhood. Ideal for winter homes. Fishing and hunting. If interested, write

LAKE REALTY COMPANY,
Beaufort, S. C.

TEXAS

TEXAS LANDS FOR SALE—226,000 acres fine colonization land, located on the South Plains fine agricultural land, subject to irrigation by pumping, shallow water, supply inexhaustible, highly improved ranch. For further information write, John Vaughn, Plainview, Texas.

BUSINESS OPPORTUNITIES

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW,
Harlow Building, Alexandria, Va. Colorado Building, Washington, D. C.

FIREPROOF and insulating building products can be made from sawdust and waste wood, waste paper, cinders, etc. by my process. Product time tested and results can be guaranteed, it is cheap and the equipment is cheap and simple, suitable for brick, blocks, partition tile, roof decking, stucco backing and cold storage insulation. For samples and particulars address E. R. Stowell, Portland, Indiana.

FOR SALE theatre business building in heart of business district of Eustis, Florida. commodious well ventilated and equipped auditorium and stage. Two stores fronting main street and arcade. Seven office suites. Annual rental income \$7980. Matlocks & Wheeler, Inc., Eustis, Florida.

PARTY with an established furniture retail business desires to relocate and enlarge same would invite a partner with capital and practical business knowledge, must be a gentle. Business has no liabilities. Address No. 6176 care Manufacturers Record, Baltimore, Md.

WANTED COMPANY to develop Fullers Earth Mine, Agricultural Lime or Portland Cement Factory. Great opportunity, 200 acres lime and Fullers Earth deposits, 20 feet to 150 feet deep. J. W. Uhels, Elko, Ga.

FOR SALE, PATENT RIGHTS on Leech Turpentine Strainer, good opportunity for some manufacturer.
H. E. Leech, Live Oak, Fla.

FOR SALE—Half interest in a copper and gold mining property 100 acres— $\frac{1}{4}$ mile from N. & S. Ry. in N. C. Vein 3 feet wide. Rich pay ore from surface down. Price \$15,000. J. H. Thain, P. O. Box 725, Charlotte, N. C.

FOR SALE—Up-to-date Electrical Supply House in the East doing a \$300,000 business. Address No. 6178 care Manufacturers Record, Baltimore, Md.

BUSINESS OPPORTUNITIES

OWNER DESIRES LOAN on 17,000 acres timber land in fee, Greenbrier and Pocahontas County, W. Va., and 6200 acres timber rights with all saw mill equipment, four portable mills, narrow gauge railroad, total amount of timber, 86,000,000 feet. 17,000 cords tan bark, 34,000 pulp wood. Land excellent for grazing purposes or agriculture. Will either sell on reasonable terms or accept loan \$150,000.00. Will stand closest investigation. Write P. O. Box 407, Charleston, W. Va.

MISCELLANEOUS

SAVE MONEY ON LUMBER purchases by keeping posted on lumber market published every week in LUMBER, recognized authority of the industry, \$5.00 a year. Sample copy on request. LUMBER, 400 Columbia Bldg., St. Louis.

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INDUSTRIES WANTED

"INMAN, S. C., wants industries, large and small. Offer cheap power—healthful climate—good labor conditions. Address Inman Chamber of Commerce, Inman, S. C.

INDUSTRIAL PLANTS

FACTORY for sale or lease. All or part of 100,000 sq. ft. floor space. Sprinkler System. Steam Heat. Railroad Siding. Central location. Wire King Thompson, 52 West Gay St., Columbus, Ohio.

TEXAS QUARRY FOR SALE. 1000 ton rock crushing plant with well developed quarry and inexhaustible supply of highest quality Trap Rock; excellent railroad facilities; well established crushed stone market, besides an advantageous ballast arrangement. This is the only Trap Rock plant in Texas. Newton & Newton, Frost Natl. Bank Bldg., San Antonio, Texas.

FIREPROOF WAREHOUSE, two floors, 25,000 sq. ft., high pitch, in heart of City, and on the belt line railroad. Ton and half electric elevator. Sprinkler system; 125 ft., loading platform, long lease, low rent. Suitable for warehouse or factory. S. L. Nusbaum & Co., Suite 600 Citizens Bank Bldg., Norfolk, Virginia.

INDUSTRIAL PLANTS

FOR SALE
FACTORY

ALFRED FRIEND TRUNK CORPORATION
Brick Building 50x300 ft. two stories,
heating plant, private siding. (A. C. L. Ry.)
eleven acres of land, abundant supply of
white or colored labor, shipping facilities
unexcelled—two boat lines—three railroads.

Write—ALFRED FRIEND

Care Rogers Trunk Corp., Petersburg, Va.

FACTORY SITES

For Sale
MANUFACTURING SITE
on Railroad and Water
Hastings Bros., Norfolk, Va.

FOR SALE—Desirable factory site located at Paragould, Arkansas: improvements consist of one story brick factory 255x40 with additions for boiler and engine room and warehouse. Two open frame sheds 100 x100. Good power plant and lighting equipment. Railroad sidings, Cotton Belt and Iron Mt. Railroads. All in first-class repair. Particularly adapted for wood working plant or furniture factory. Address No. 6137 care Manufacturers Record, Baltimore, Md.

FREE FACTORY SITE—Cheap gas, cheap coal, direct transportation facilities, cheap labor. Information on request. Wetumka Chamber of Commerce, Wetumka, Okla.

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PATENTS—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENTS AND PATENT CAUSES—Searches; Applications; Reports on questions of Validity and Infringement. Development, design, manufacture and contracts. Registered Patent Attorney; Member American Society of Mechanical Engineers. ARTHUR SCRIVENOR, Mutual Building, Richmond, Va.

PATENT ATTORNEYS

INVENTORS—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chand-lee & Chandlee, 412 7th St. N.W. Washington, D. C.

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AGENCIES WANTED

Chicago established sales organization desires additional product to market. Experienced wood, metal, conveying equipment, selling R. R. Mines, Construction and Manufacturing plants. Room 69, 39 W. Adams St., Chicago, Illinois.

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A YOUNG MAN, 21 years old, who has had experience as an operator of Road Roller machine, wants a position with a reliable Road Building Contractor.

Edward Taylor.

Care T. J. Purdy, Griffin, Ga.

ACCOUNTANT—Experienced, capable, sober, 39, fluent English-Spanish, highest references, desires connection with Corporation in Latin America, any line. Address No. 6177, care Manufacturers Record.

CHEMICAL ENGINEERING, by undergraduate University of Michigan, during summer, July 1st to October 1st. Had general qualitative and analytical chemistry, and causes in coal tar and gas analysis, besides the regular engineering courses. Could act as assistant in any kind of laboratory. Three years in college. Twenty-one years old. Address J. M. RUSS, JR., Red Lick, Mississippi.

WANTED—Position as Commissary Manager, eighteen years experience along this special line of work. Strictly sober. I invite the most rigid investigation of past records. P. O. Box No. 324, Conway, S. C.

MEN WANTED

Salaried positions \$2500 to \$25,000 upward; executive, technical, administrative, engineering, manufacturing, professional managing, financial, etc., all lines. If you are qualified, and receptive to tentative offers for a new connection you are invited to communicate in strict confidence with the undersigned, who will conduct preliminary negotiations for such positions. A method is provided through which you may receive overtures in confidence, without jeopardizing present connections, and in a manner conforming strictly to professional ethics. Send name and address only; preliminary particulars will be sent without obligating or compromising you in any way. R. W. Bixby, Inc., 403 Lockwood Building, Buffalo, N. Y.

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A Structural Steel Draftsman
with experience:

At

ASHEVILLE, N. C.
THE FAMOUS SUMMER RESORT
IN THE LAND OF THE SKY.

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WANTED — FOREMAN on cofferdam work, especially experienced in driving steel sheet piling through boulders and hard pan. No. 6179, care Manufacturers Record.

WANTED: — ASPHALT SUPT. One who knows plant and street operation. This is a golden opportunity for right man. We are located where millions of dollars are to be spent. 600 miles to be done. Would like man selected to take financial interest either cash or plant equipment. Write fully outlining qualifications. Address No. 6180 care Manufacturers Record Baltimore.

WANTED TO EMPLOY an experienced machinery salesman, prefer one with established trade. We have a well established trade and represent very popular lines and have a good proposition for the right party. Apply to the Standard Machinery and Equipment Company, Spartanburg, S. C.

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Equipment of Chesapeake Engine Co.; machinery, tools, patents and drawings for Marine and Stationary motors, 2 and 4-cycle. Chesapeake Engine Co., Oxford, Md.

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1000 Acres of Coal and Timber
For Sale in Fee

Fronts on main line of N. & W. Railway and Tug River. This property has never been on the market before. Principals only.

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Railroad Sidings, Prices Low, Labor Conditions good. Richmond Industries can obtain electric power as cheap as .0125 per K.W.H. plus discount of 20%. Richmond has a gas rate of \$1.30. Richmond has six trunk line Railways radiating in eleven directions. Write

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The Reason:

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Special report on your particular requirements by

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To the MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

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Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

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For Sale

700 H. P. Water Power combined with Magnificent Country Lodge

This property is located at Clarksville, Georgia, Habersham County, on branch line of the Southern Railway, eight miles from the main line, and is 1600 ft. above the sea level. The acreage is 370 acres, some rugged, level and open land—abundance of timber. The water power, undeveloped at the present falls is 738, but this can be increased by narrowing the head fall.

The residence contains 15 rooms, all modern conveniences, flower and fruit hot houses, bowling alley, ample servants quarters, barns, dairy, etc. The entire premises are in A-1 condition, owned and occupied by the present owners for the summer months for many years past, and used by them as a pleasure resort.

The acreage in this property consists of two adjoining tracts, the water power tract 226 and residence tract 144.

We have photos, maps, etc., which will be furnished upon request.

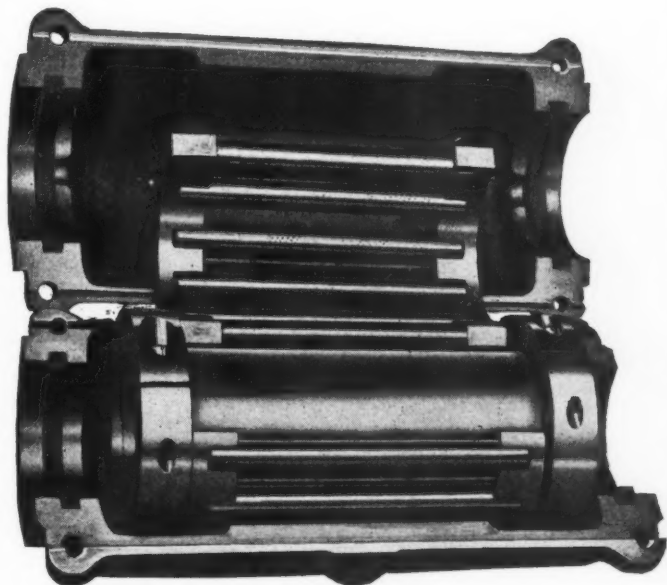
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Between the hard rollers and the soft shaft —*the patented steel sleeve*

Think of what must happen if this sleeve were not there. These rollers would bite into the shaft which is always soft to allow for torque. Then it wouldn't be long before the shaft diameter at this point would be lessened and the shaft itself weakened.

**This would occur with
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The patented steel sleeve of the Sells Bearing saves this wear on the shaft. The rollers revolve around the sleeve which is clamped on the shaft. On the outside, they bear against the housing which is also high carbon steel.



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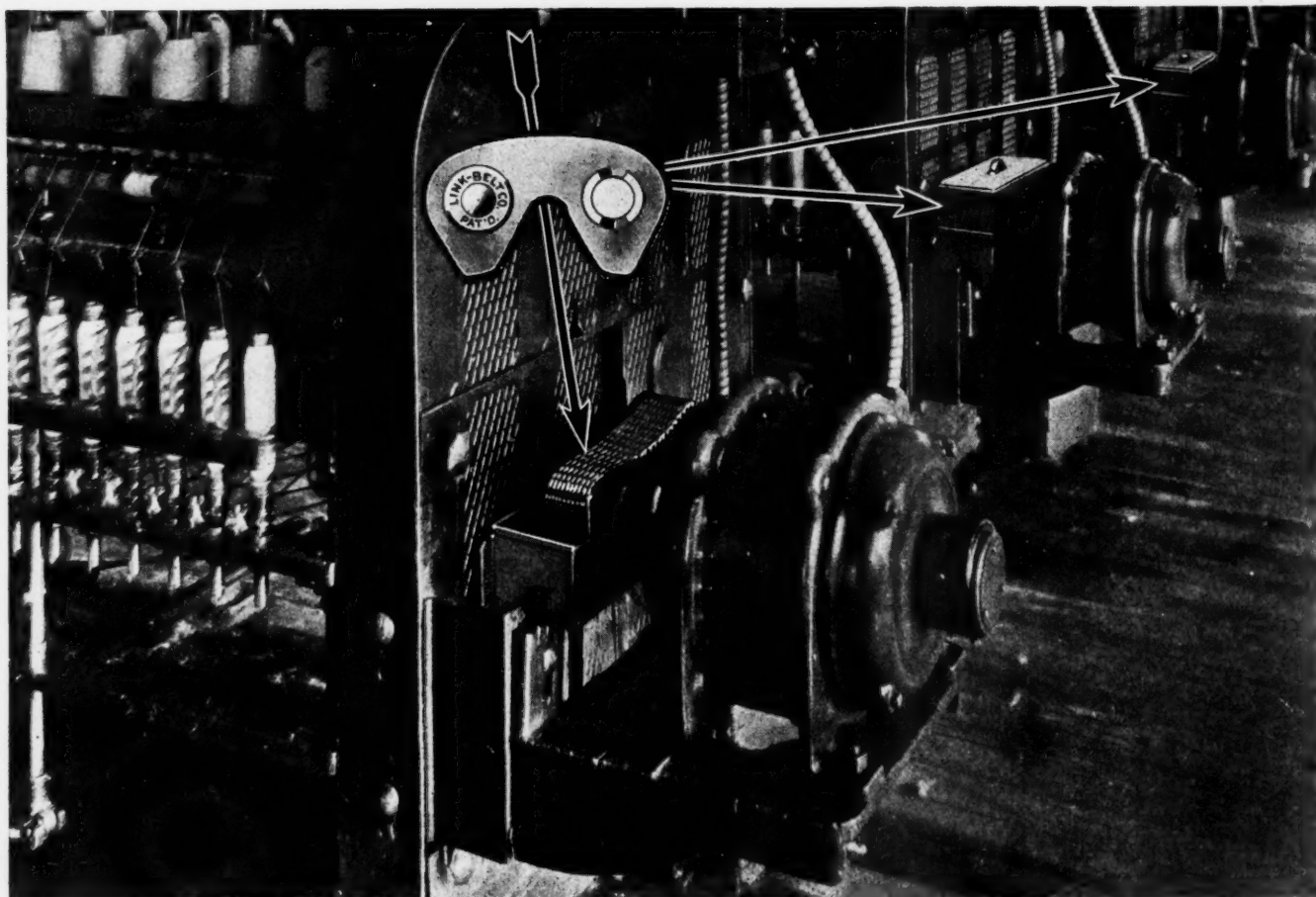
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MacRae's Blue Book will tell you who he is, or write us. We'll also send that book of ours "Anti-Friction Power Transmission."

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And see that you get the Sells; it's marked—The bearing that is past any experimentation.



Increases our production 6%

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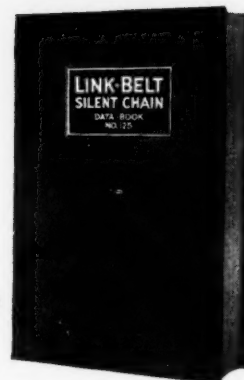
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"The installation of Link-Belt Silent Chain Drives on our spinning frames has eliminated the slip of belts, thereby increasing our production 6% and saving us \$4,006.64 a year. At this rate the chains repay their cost every year.

"The individual drive enables us to get rid of belts. So we purchased 184 Link-Belt Silent Chains for driving our spinning frames. 93 are 5 H. P. chains and 91 are 7½ H. P. We were one of the first mills to use Link-Belt Silent Chains for this purpose.

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